

From Livestock to Game Farming: Farmers' understandings of land use changes, sustainable agriculture and biodiversity conservation in the Ubuntu Municipality, South Africa

by

Charmaine Rudo Sanelisiwe Manyani



*Dissertation presented for the degree of Doctor of Philosophy in Sociology
in the Faculty of Arts and Social Sciences
at Stellenbosch University*

Supervisor: Prof Cheryl Walker

March 2020

Declaration

By submitting this dissertation electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

March 2020

Copyright © 2020 Stellenbosch University

All rights reserved

Abstract

Through a case study of commercial game farming in the Ubuntu Local Municipality in the arid Nama Karoo Biome of the Northern Cape, this dissertation has three main aims: firstly, to understand the views of commercial farmers in the Ubuntu Local Municipality on game farming and its relationship to sustainable agriculture in this region, including the motivations of those who are making the switch from livestock to game farming; secondly, to bring to the fore the views of black small-scale and emerging farmers, a neglected constituency in the debate on the merits of game farming, and thirdly, to address if and how the trend towards game farming in the Northern Cape could be aligned to sustainable land and agrarian reform. My theoretical framing draws on political ecology and understandings of sustainable development that consider social and economic justice as non-negotiable imperatives, along with respect for planetary boundaries.

The growth of game farming in South Africa has been variously attributed to socio-political, economic, climatic and ecological reasons. There are an estimated 11,500 wildlife ranches in South Africa that, according to Wildlife Ranching South Africa (2017), have converted 20 million hectares of marginal land to productive land. However, despite its reported success, game farming in South Africa is mired in controversy. While its proponents argue that farmers who are making the switch are aligned with sustainable agricultural practices and the promotion of biodiversity conservation, its critics argue that game farming is being driven by other motives, including evading land reform through manipulating conservation narratives.

Analysing and contextualising these debates in an under-researched area with a very specific history and ecology is thus an important task. In addressing these issues, I have used a case study design that utilised a mixed-methods approach to gathering data. Methods utilised included a self-administered survey of commercial farmers in the Ubuntu Local Municipality, in-depth interviews with commercial and small-scale farmers as well as officials and other key informants, focus group discussions, observations and documentary analysis.

My main findings are, firstly, that the switch to game farming in the Ubuntu Local Municipality has been spurred primarily by economic factors (increasing production costs, market fluctuations, etc.); however, ecological considerations in terms of managing drought and climate change concerns and the depletion of the natural veld are also encouraging farmers to diversify their income portfolios. Secondly, game farming is, no more or less complicit in unsustainable farming than other forms of farming; it depends on how it is practised. In a

context of social-ecological change it could contribute to more sustainable land management and local economic development in arid environments (for instance through new forms of employment) if appropriately regulated, as part of a larger suite of more effectively supported land and agrarian reform projects.

Thirdly, small-scale farmers' entry into commercial livestock farming is severely hampered by their lack of access to critical resources that include land, financial assistance, extension support and production skills. In this context game farming is seen as beyond what they can envisage or aspire to in the Ubuntu Local Municipality.

Opsomming

Deur middel van 'n gevallestudie van kommersiële wildboerdery in die Ubuntu Plaaslike Munisipaliteit in die dorre Nama Karoo Bioom van die Noord-Kaap, het hierdie proefskrif drie hoofdoelstellings: eerstens, om die siening van kommersiële boere in die Ubuntu Plaaslike Munisipaliteit oor wildboerdery en dié se verhouding tot volhoubare landbou in hierdie streek te verstaan, insluitend die motiverings van diegene wat die oorsakeling van vee na wildboerdery doen; tweedens, om die standpunte van swart en opkomende boere na vore te bring, 'n verwaarloosde kiesafdeling in die debat oor die meriete van wildboerdery, en derdens om aan te spreek óf en hoe die neiging na wildboerdery in die Noord-Kaap kan bydra tot volhoubare grond- en landbouhervorming. My teoretiese raamwerk berus op politieke ekologie en begrippe van volhoubare ontwikkeling wat sosiale en ekonomiese geregtigheid as ononderhandelbare noodsaaklikhede beskou, tesame met respek vir planetêre grense.

Die groei van wildboerdery in Suid-Afrika word onderskeidelik toegeskryf aan sosio-politieke, ekonomiese, klimaats en ekologiese redes. Daar is na raming 11,500 wildplase in Suid-Afrika wat, volgens Wildbedryf Suid-Afrika (2017), 20 miljoen hektaar marginale grond na produktiewe grond omgeskakel het. Ondanks wildboerdery se gerapporteerde sukses, word dit in Suid-Afrika betwis. Terwyl die voorstanders daarvan argumenteer dat boere wat oorskakel in lyn is met volhoubare landboupraktyke en die bevordering van die bewaring van biodiversiteit, meen kritici dat wildboerdery deur ander motiewe gedryf word, insluitend die ontwyking van grondhervorming deur die misgebruik van bewaring verhaaltrante.

Dit is dus 'n belangrike taak om hierdie debatte te analiseer en te kontekstualiseer in 'n ondersoekte gebied met 'n baie spesifieke geskiedenis en ekologie. In die aanspreking van hierdie kwessies het ek 'n gevallestudie-ontwerp gebruik wat 'n gemengde-metodesbenadering aangewend het om data in te samel. Metodes wat gebruik is sluit in 'n selfgeadministreerde opname van kommersiële boere in die Ubuntu Plaaslike Munisipaliteit, in-diepte onderhoude met kommersiële en kleinboere, sowel as amptenare en ander sleutel informante, fokusgroep besprekings, waarnemings en dokumentêre analise.

My belangrikste bevindings is, eerstens, dat die oorsakeling na wildboerdery in die Ubuntu Plaaslike Munisipaliteit hoofsaaklik aangespoor is deur ekonomiese faktore (toenemende produksiekoste, mark fluktuerings, ens.); nogtans, ekologiese oorwegings ten opsigte van die bestuur van droogte en klimaatsverandering en die uitputting van die natuurlike veld moedig boere aan om hul inkomste portefeuljes te diversifiseer. Tweedens, wildboerdery is nie meer

of minder medepligtig in onvolhoubare boerdery as ander vorme van boerdery nie; dit hang af van hoe dit beoefen word. In 'n konteks van sosiaal-ekologiese verandering, kan dit bydra tot meer volhoubare grondbestuur en plaaslike ekonomiese ontwikkeling in droë omgewings (byvoorbeeld deur nuwe vorme van indiensneming) indien dit toepaslik gereguleer word as deel van 'n groter reeks meer doeltreffende grond- en landbouhervorming projekte.

Derdens, die toetreding van kleinboere tot kommersiële veeboerdery word ernstig belemmer deur 'n gebrek aan toegang tot kritieke hulpbronne wat grond, finansiële hulp, voorligtingsdienste en produksievaardighede insluit. In hierdie konteks word wildboerdery gesien as verder as wat hulle in die Ubuntu Plaaslike Munisipaliteit kan visualiseer of nastreef.

Acknowledgements

This study was made possible by Prof Cherryl Walker's DST/NRF SARChI Research Chair in The Sociology of Land, Environment and Sustainable Development. I would like to express my sincere gratitude to Prof Cherryl Walker whose encouragement, patience, kindness and enthusiasm have anchored me throughout this journey. Despite the difficulties and challenges I've gone through this journey, her support remained steadfast.

I would also like to thank the Graduate School of the Faculty of Arts and Social Sciences at Stellenbosch University for its financial and other support, through its scholarship programme. Special mention to Dr Cindy Steenkamp and Tanja Malan who through their efforts have made this journey hassle free.

Gratitude is also owed to the Department of Sociology and Social Anthropology for its financial support at a time I needed it the most. A big thank you to Genay Dhelmine and Nwabisa Madikane for their unwavering administrative support.

To my research participants who welcomed me into their homes and their offices and made time to speak to me, my gratitude. Without your voices, this study would not have been possible.

To the Karoosters who have become family, thank you for making this journey exceptional and fun. It was a delight to be amongst such a dynamic group of individuals; I wish you all the best in your journeys and may we meet again.

To my siblings and niece, Joyce, Morris, Estralitah, Talent, Amanda, Tanaka, Candice and Natasha, thank you for the love and support, my darlings. May you all be blessed.

To my parents, Mr Marshall Manyani and Mrs Costance Manyani, your love, support and encouragement throughout the years has bred in us the love for education. Much love to you.
Inkosi inibusise, ngiyabonga bazali bami.

To the Adonis family, who opened their home to me and accepted me as one of theirs, I am forever grateful. God bless you.

To Current and Amanda your unfailing support has been a delight.

To my ISS family, I am eternally grateful.

Simone Adonis, words will never be enough. You have been my rock.

Dedication

To the Manyani family, the sky is the limit. To God be the glory.

Table of Contents

Declaration.....	i
Abstract.....	ii
Opsomming.....	iv
Acknowledgements	vi
Dedication	vii
Table of Contents	viii
List of tables.....	xiv
List of figures.....	xvi
Glossary of terms	xvii
List of acronyms.....	xx
Chapter 1: Introduction	1
1.1 Game farming in South Africa: an overview.....	3
1.1.1 Key debates	3
1.1.2 The history of game farming	6
1.2 Research problem and rationale.....	7
1.3 Research questions	11
1.4 Brief description of the study site	12
1.5 Chapter outline.....	15
Chapter 2: Conceptual framework: political ecology, sustainable development and land reform.....	19
2.1 Political ecology	20
2.2 Sustainable development	25
2.2.1 Defining sustainable development.....	25
2.2.2 Sustainable agriculture	29
Sustainable agriculture in South Africa	31
2.3 Biodiversity and its conservation	33

2.3.1 The importance of biodiversity conservation.....	33
2.3.2 Biodiversity conservation in South Africa.....	35
The troubled history of conservation in South Africa	36
Biodiversity in the Nama Karoo Biome.....	37
2.4 Land reform and social and economic justice	40
2.4.1 Overview of land reform in South Africa.....	40
Land restitution	42
Land redistribution.....	43
Tenure reform	43
The debate on expropriation without compensation	44
2.4.2 Emerging farmers and land reform.....	46
2.5 Conclusion.....	47
Chapter 3: Research design and methodology	48
3.1 Case study research design.....	48
3.2 Mixed methods.....	49
3.3 Data collection methods	50
3.3.1 Documentary review and analysis.....	51
3.3.2 Archival sources.....	51
3.3.3 Fieldwork data collection and analysis	52
The background survey	52
Semi-structured interviews with commercial farmers, small-scale farmers and key informants	55
Telephone interviews with land reform beneficiaries.....	57
Focus group discussions	57
Observation	58
Data analysis	58
3.4 Ethical considerations	59
3.5 Reflections on my positionality as a researcher.....	60
3.6 Reflections on the limitations of my research design	62
3.7 Conclusion.....	63

Chapter 4: The game farming industry in South Africa: A literature review	65
4.1 Overview of the game farming sector.....	65
4.1.1 The scale of the industry	65
4.1.2. The sub-sectors of the game industry	69
Ecotourism	69
Game breeding	70
Game auctions/ Live game sales	72
Hunting	72
4.1.3 Regulation of the game sector.....	74
Environmental Impact Assessments	75
Fencing.....	75
Regulating translocation	76
4.2 Key debates on the environmental and social sustainability of game farming	77
4.2.1 Environmental dimensions of game farming	77
The privatisation and commodification of nature	77
The breeding of high-value game and colour variants.....	78
Extralimital species	82
Trophy hunting.....	83
4.2.2 Social dimensions of game farming.....	85
Race, class and land reform	85
Evictions of farm dwellers, farm workers and access to game farms.....	88
Employment	92
4.3 Conclusion.....	93
Chapter 5: Land, agrarian and environmental change in the Northern Cape: An historical perspective	96
5.1 The history of the Northern Cape to approximately 1994	96
5.1.1 Pre-colonial history.....	96
5.1.2 <i>Trekboers</i> and the northern frontier to the mid-19th century	98
5.1.3 Settler farming in the area of Victoria West in the mid-19th century.....	102
5.1.4 The development of commercial agriculture from the mid-19th century	104
5.1.5 Environmental change	107
5.1.6 Agrarian and demographic change in the 20th century	108

5.2 Land and agriculture in the Northern Cape Province after 1994	110
5.2.1 The agricultural sector	110
5.2.2 Land reform	112
5.2.3 Land degradation	114
5.2.4 Drought and climate change	116
5.3 Conclusion.....	118
Chapter 6: A profile of commercial farming and farmers in the Ubuntu Local Municipality.....	119
6.1 Overview of commercial farming	119
6.1.1 Types of farming.....	119
Livestock farming	120
Crop production under irrigation	123
Farm size and land consolidation.....	124
6.1.2 Demographic profile of the farmers.....	125
Race, gender and language	126
Marital status and the gendered division of labour	126
Age and education.....	127
6.1.3 Land ownership	129
Farm ownership	129
Inheritance.....	129
Land and identity	132
6.2 Commercial farmers' challenges and coping strategies	133
6.2.1 Challenges.....	133
Drought	134
Predation	136
Lack of government support	137
Labour	138
Land reform	141
6.2.2 Coping strategies.....	143
Good farm management practises.....	144
Diversified income portfolios	144
Land consolidation.....	145

Trust in God	145
6.3 Conclusion.....	146
Chapter 7: Game farming, sustainable agriculture and biodiversity conservation	148
7.1 Commercial farmers’ understandings of sustainability	148
7.1.1 Sustainability and the environment	149
Farmers views on climate change	152
Farm veld management practices and strategies.....	153
7.1.2 Sustainability and economic concerns	157
7.1.3 Sustainability and social concerns.....	159
7.1.4 Institutional support for sustainable agriculture	161
Farmer organisations and sustainable agriculture.....	161
The role of local government.....	162
7.2 Farmers’ motivations for shifting to game farming or staying with livestock	163
7.2.1 Reasons for staying with livestock farming.....	165
7.2.2 Reasons for shifting to farming with game	168
7.2.3 Views on the contribution of game farming to conservation.....	173
7.6 Conclusion.....	174
Chapter 8: Prospects for emerging and small-scale farmers in the game farming industry	175
8.1 Defining small-scale farming.....	176
8.2 Small-scale farming in Victoria West.....	180
8.2.1 Victoria West municipal commonage land	180
8.2.2 Mardeck farm	184
8.2.3 Backyard farmers in Victoria West	186
8.2.4 A comparative overview of the three farming types	187
8.2.5 Demographic profile of small-scale farmers in Victoria West	188
Race, gender, age	188
Education levels	189
Livelihoods	189
8.3 Small-scale farming realities in the Ubuntu Local Municipality.....	191
8.3.1 Livestock management.....	191

8.3.2 Challenges.....	193
8.2.3 Small-scale farmers and sustainable agriculture.....	197
8.4 Small-scale farmers in Victoria West and game farming.....	199
8.4.1 Views on the potential of game farming for themselves.....	199
8.4.2 Prospects for aligning game farming with land and agrarian reform.....	201
Land	201
Skills and mentorship.....	202
Capital constraints.....	202
8.5 Conclusion.....	204
Chapter 9: Conclusion.....	206
9.1 The scope of game farming in the Ubuntu Local Municipality	207
9.2 Sustainable land management in the Ubuntu Local Municipality	211
9.3 Game farming and sustainable agriculture	213
9.3.1 The economic dimensions of sustainable agriculture.....	213
9.3.2 The ecological dimensions of sustainable agriculture	215
9.3.3 Social Justice and sustainable agriculture.....	217
9.4 Game farming and sustainable development in the Karoo	218
References.....	221
Interviews.....	253
Appendices.....	256

List of tables

Table 3.1: Primary data collection methods (November 2016-March 2018)	52
Table 4.1: Distribution of registered game fenced farms in South Africa in 2016.....	66
Table 4.2: Estimates of income contribution of sub-sectors of the game industry in 2014.....	67
Table 4.3: Top five income-generating species for trophy hunting	74
Table 4.4: Species preserved by the wildlife ranching sector in South Africa	80
Table 5.1: Population changes in the Karoo, 1911-2004.....	109
Table 5.2: Population changes in Victoria West and Richmond between 1911-2011.....	110
Table 5.3: Land use patterns in the Northern Cape (1991).....	111
Table 5.4: Distribution of agricultural households by main place of agricultural activity in the Northern Cape, 2016.....	112
Table 5.5: Distribution of Northern Cape agricultural households (HH) per herd size, 2016	112
Table 5.6: Overview of land redistribution and restitution in the Northern Cape, as of March 2018.....	114
Table 6.1: Distribution of respondents by age and farm type in the Ubuntu Local Municipality	127
Table 6.2: Level of education of survey respondents	128
Table 6.3: Farm ownership as indicated in the farmer survey	129
Table 6.4: Date when the primary registered farm of respondents was first acquired, by ownership type	131
Table 6.5: Challenges of farming in the Ubuntu Local Municipality	134
Table 6.6: Job categories and number of workers on four game farm operations.....	141
Table 6.7: Coping strategies by farmers in the Municipality.....	144
Table 7.1: Farmers' views on changes in weather patterns in the last 20 years (n= 57)	153
Table 7.2: Farmers Associations listed by farmers in the farmer survey.....	162
Table 7.3: Reasons for livestock farmers staying in livestock farming	164

Table 7.4: Game farmers’ motives for switching to game farming	165
Table 7.5: Farmers views on game contributions to sustainable agriculture and biodiversity conservation (n=57)	173
Table 8.1: The DAFF small-scale farmer typology in the Northern Cape	177
Table 8.2: Features of small-scale farming	187
Table 8.3: Age and gender of interviewed farmers (N=23)	188
Table 8.4: Education levels of commonage farmers on commonage land (N=23)	189
Table 8.5: Employment status of small-scale farmers in Victoria West.....	190
Table 8.6: Primary sources of income for small-scale farmers in Victoria West	190
Table 8.7: Challenges faced by small-scale farmers in Victoria West	193
Table 8.8: Small-scale farmers’ understandings of game farming	200

List of figures

Figure 1.1: Location of the Ubuntu Local Municipality in the Nama Karoo	3
Figure 1.2: Map showing different/proposed land uses in the study area	10
Figure 1.3: The Ubuntu Local Municipality, showing main towns & roads	13
Figure 2.1: Riverine Rabbit (<i>Bunolagus monticularis</i>).....	39
Figure 4.1: Breeding for ‘colour variants’: A - white lion, B – standard lion, C – white-flanked impala, D - standard impala	71
Figure 4.2: Breeding Camp.....	79
Figure 5.1: Map of the early Cape Colony showing time frames for settler expansion from Cape Town during the 18 th century	100
Figure 5.2: The distribution of farm title deeds from the 1830s	103
Figure 5.3: Victoria West in 1860.....	104

Glossary of terms

Term	Definition of key terms used in this dissertation
Backyard farmer	Refers to an individual living in an urban area who practices some small-scale farming, including vegetable, crop, poultry and livestock, using his/her residential plot and/or available open spaces in and around the town such as road verges and empty lots; in this dissertation backyard farmers are mostly small-scale livestock farmers.
Biodiversity	“... is the variety of life on Earth, including plants, animals and micro-organisms, as well as the ecosystems of which they are part. Biodiversity includes genetic differences within species, the diversity of species and the variety of ecosystems. It is the result of the interaction of species, including humans, with one another and with the air, water and soil around them” (Secretariat of the Convention on Biological Diversity, 2005: xv).
Biodiversity conservation	Is understood as “incorporating the preservation, maintenance, sustainable use, recovery and enhancement of the components of biological diversity” (Mutia, 2009: 4).
Biodiversity stewardship	“... is an approach to securing land in biodiversity priority areas through entering into agreements with private or communal landowners, led by conservation authorities. Different types of biodiversity stewardship agreement confer different benefits on landowners and require different levels of restriction on land use. In all cases the landowner retains title to the land, and the primary responsibility for management remains with the landowner, with technical advice and assistance provided by the conservation authority” (SANBI, 2016: 11).
Commercial farming	Farming on a large-scale for the market, whether as a fulltime occupation or a secondary business enterprise; in South Africa the sector has been associated historically with white farmers, who continue to be predominant into the present.
Conservation	“Is the protection, care, management and maintenance of ecosystems, habitats, wildlife species and populations, within or outside of their natural environments, in order to safeguard the natural conditions for their long-term permanence” (UN Environment, 2019: 691).
Ecology	“Is the study of the interrelationships of organisms with their living and non-living environments” (Hughes, 2014: 5).

Ecosystem services	Are the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life (Daily, 1997: 4).
Emerging farmer	Is a small-scale farmer who has the potential and/or desire to expand his/her farming operations to become a commercial farmer, through private or government financial support; in South Africa the presumption is that the person is black.
Farmer	Is anyone (regardless of race, gender, tenure regime and the scale of the operation) who is engaged in agricultural activities such as livestock farming, crop farming, game farming, vegetable farming etc., with the primary objective of producing consumable and non-consumable products, whether for household consumption or for sale.
Game farmer	Is a farmer farming with game on privately-owned land and includes activities such as the breeding of high value species and colour variants; trophy and biltong hunting; eco-tourism; the production of game products such as meat, skins and curios; and live game sales.
Game	Is any animal that is not domestic (i.e. is considered wildlife) and can be hunted for food and/or for sport.
Green economy	"A green economy is defined as low carbon, resource efficient and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services" (see, https://www.unenvironment.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy).
Large-scale farmer	Is a farmer involved in the rearing of livestock on large pieces of land. This type of farming is mostly associated with white commercial farmers in South Africa.
Livestock farmer	Is a farmer rearing domestic animals (goats, cattle, pigs, sheep etc.) for profit or subsistence purposes.
Political ecology	A theoretical framework that advocates "understanding the complex relations between nature and society through a careful analysis of ... the forms of access and control over resources and their implications for environmental health and sustainable livelihoods" (Watts, 2000: 257).

Small-scale farmer	Is a farmer farming on a small-scale in terms of turnover and operations and usually, but not definitively, area of land, for the market and/or subsistence reasons, most commonly on communal land; the term is generally associated with black farmers in South Africa.
Sustainable development	Widely understood as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (World Commission on Environment and Development, 1987); in this dissertation the concept is extended to refer to development that meets the three non-negotiable imperatives that all need to be honoured; the moral imperatives of satisfying needs, ensuring equity and respecting environmental limits (Holden, Linnerud & Banister, 2017: 214).
Sustainable agriculture	Agriculture that is practised in a manner that is consistent with and advances the principles of sustainable development.
Wildlife	As used in this dissertation the term refers specifically to animals that have not been domesticated and thus encompasses undomesticated animals also defined as ‘game’.

List of acronyms

AAA	Astronomy Advantage Area
AGRISA	Agriculture South Africa
CIC	International Council for Game and Wildlife Conservation
DAFF	Department of Agriculture, Forestry and Fisheries
DRDLR	Department of Rural Development and Land Reform
IDP	Integrated Development Plan
LRAD	Land Redistribution for Agricultural Development
NAMC	National Agricultural Marketing Council
PHASA	Professional Hunters Association of South Africa
SA JAGTERS	South Africa Hunters
SAHGCA	South African Hunters and Game Conservation Association
SANBI	South African National Biodiversity Institute
SANPARK	South African National Parks
SCI	Safari Club International
SLAG	Settlement Land Acquisition Grant
WRSA	Wildlife Ranching South Africa
WTA	Wildlife Translocation Association

Chapter 1: Introduction

This dissertation seeks to establish whether game farming, i.e. farming commercially with wildlife, can contribute to sustainable development in South Africa, the latter understood not simply in terms of aligning economic growth with biodiversity conservation but also in terms of promoting social justice. It does so through a case study of the trend towards game farming rather than livestock farming in the Ubuntu Local Municipality in the semi-arid Nama Karoo region of the Northern Cape (see Figure 1), an area where commercial sheep farming has been the dominant form of farming and mainstay of the local economy since the mid-19th century until now. In this context, social justice as a prerequisite for sustainable development is understood to include a land reform programme that addresses the starkly racialised inequalities in access to land that stem from South Africa's past and are particularly marked in the Karoo.

In unpacking the relationship between game farming and sustainable agriculture, hence sustainable development, this dissertation has three broad research foci. The first is to understand the views of commercial farmers in the Ubuntu Local Municipality on game farming and its relationship to sustainable agriculture in this region, including the motivations of those who are making the switch from livestock to game farming: are these farmers (all of whom are white) doing so because of commitments to sustainable agricultural practices and biodiversity conservation, as the proponents of game farming claim, or are they driven primarily by other motives, including evading land reform through the use of conservation narratives to justify what they are doing, as many of their critics argue? The second is to bring to the fore the views of a neglected constituency in the debate on the merits of game farming, that of black small-scale and emerging livestock farmers. The small-scale farmers canvassed in this study include 1) livestock owners dependent on municipal commonage land attached to the town of Victoria West (in the Ubuntu Local Municipality) for their access to grazing, 2) so-called 'backyard' farmers in Victoria West, i.e. black livestock owners living in the town, with no access to grazing land other than what is available on their small urban plots or on street verges and open spaces in the town, and 3) the beneficiaries of a land reform project called Mardeck, some 3 kilometres from Victoria West.

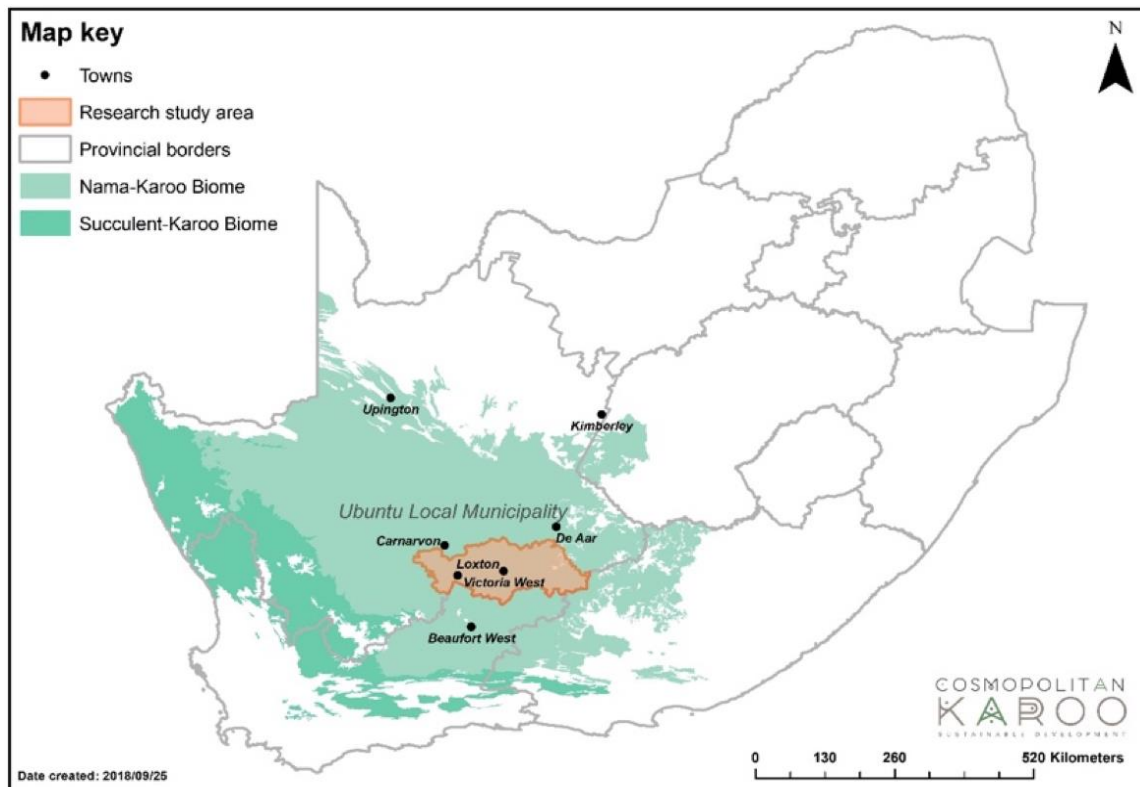
The third focus, which flows from the first two, is a consideration of if and how the trend towards game farming in the Northern Cape could be aligned with sustainable land and agrarian reform, through the inclusion of black small-scale and emerging farmers in the industry. As argued by Cockburn (2018: 9-10) “tensions between biodiversity conservation, human rights and development make it difficult to achieve integrated sustainable development outcomes”. Hence my interest in exploring the prospects for small-scale black farmers in the game industry, and whether a reconfigured and deracialised game farming sector could, potentially, contribute towards sustainable land reform, and thereby to the broader goal of sustainable development.

While other sociological studies on the shift to game farming in South Africa have focused largely on the negative impact of game farming on farm workers and dwellers (see, for instance, Luck, 2005; Mkhize, 2012; Snijders, 2012 and Brandt & Spierenburg, 2014), the particular contribution of this study lies in its focus on the motivations and aspirations of farmers themselves, operating at different scales, as well as its consideration of the significance of game farming in a semi-arid area, one which has not been previously studied and where sustainable land and agrarian reform faces many challenges, not least the relatively harsh environment that renders dense settlement and intensive farming inappropriate land uses. In addressing this nexus of issues, I draw on political ecology and understandings of sustainable development that recognise that land use and control over natural resources are shaped by power dynamics and are politically charged practices, but also bring to the fore the urgency of protecting biodiversity, i.e. of conservation at the landscape level, not simply the protection of individual species.

Here the issue of my positionality and how this has affected not only my choice of research topic but also my access to farmers in the field is worth noting. My social identity as a female, black, foreign-national (Zimbabwean) researcher in South Africa has certainly been a factor in shaping my interest in land and agrarian reform in this country, as well as in how I initially thought about my research design. It is also interesting to reflect on the extent to which positionality has emerged as a prominent theme in scholarly work on the game farming industry, with different academics highlighting how this has influenced, positively and/or negatively, their individual research processes. In my case, my social identity turned out to be less of a hindrance and more of an advantage in my fieldwork than I had anticipated at the start, an issue I return to in my discussion of my research methodology in Chapter 3.

This introductory chapter provides an overview of the key issues and themes that are central to my dissertation. I begin in section 1 with a summary of key debates around the development of game farming in South Africa, followed by a brief review of the sector's history, by way of context; a fuller discussion of these issues is set out in Chapter 4. This section is followed by a statement of my research problem and rationale in section 2, which addresses why I decided to undertake this study and its contribution to the literature on game farming. This discussion leads into an outline of my underlying research questions in section 3. Section 4 provides an introductory overview of the Ubuntu Local Municipality, my case study site, in which I draw attention to significant social, economic and environmental dynamics in the area. This chapter concludes with an outline of the organisation of this dissertation across the eight chapters that follow, in section 1.5.

Figure 1.1: Location of the Ubuntu Local Municipality in the Nama Karoo



(Source: SARChI Research Chair in the Sociology of Land, Environment and Sustainable Development)

1.1 Game farming in South Africa: an overview

1.1.1 Key debates

The game farming industry in South Africa has been mired in contentious debates about its economic, social and environmental contribution, with studies across the social and natural

sciences yielding varied findings on the subject. The debates in the academic, public and policy spheres hinge on whether this land-use change presents meaningful opportunities for sustainable agriculture in the future or if there is a need to reconsider the industry's credentials as a positive force and its future prospects.

On the one hand, studies by Child (1988), Sims-Castley, Kerley, Geach & Langholz (2005), Langholz & Kerley (2006), Lindsey, *et al.* (2013) and Taylor, Lindsey & Davies-Mostert (2016) all argue that the game farming industry in South Africa is doing very well, offering important conservation, economic and social benefits as long as it is practised responsibly. On the other hand, studies by Mkhize (2012), Brandt (2013), Ngubane & Brooks (2013), Zulu (2015) and Zungu (2017) argue that the development of game farming has had adverse social impacts in the countryside, impacting particularly negatively on the livelihoods and security of tenure of farm dwellers and workers who are being disenfranchised from the land because of it. In this way commitments to land reform are being set back, not only because farm dwellers are being denied their land rights, but also because the state tends to regard game farms as off-limits for its land reform programme, because of the alleged contribution of these farms to conservation – a contribution which these critics are calling into question.

Private landowners in South Africa have been legally allowed to utilise their wildlife¹ commercially since the 1970s, and these landowners have been credited with the huge growth of the wildlife industry over the past 40 years. Although the contribution of the game farming industry to the increase in selected wildlife species such as white rhinoceros, blesbok, Cape mountain zebra, roan and sable antelope is not in question, several critics have raised concerns around the limitations of the industry with respect to the conservation of biodiversity. It is not only social scientists who are critical of the conservation credentials of game farming; ecologists have also raised concerns about its limitations. For example, Smith & Wilson (2002), Langholz & Kerley (2006), Cousins, Sadler & Evans (2010) and Lindsey, *et al.* (2013) have argued that a number of practices within the game farming industry are in conflict with conservation principles. These include:

- 1) Selective breeding for recessive colour variations and quality traits like huge horns (for trophy hunting purposes), sometimes described as the breeding of 'freaks'

¹ As set out in the Glossary, wildlife refers specifically to animals that have not been domesticated, while game is a sub-sector of wildlife that refers to any animal that is not domestic (i.e. is considered wildlife) and can be hunted for food and/or for sport; the industry tends to use the two terms interchangeably

- 2) The introduction of extralimital species (i.e. animals not previously found in a given geographical area, sometimes referred to as ‘exotics’)
- 3) Breeding of animals in captivity, that may result in the inbreeding of species and the domestication of wild animals
- 4) Canned hunting (i.e. hunting of animals that have no chance of escaping the hunter).

These critics have also argued that the rapid transformation of game farming into an intensive, profit-driven enterprise has contributed to the erosion of its conservation credentials.

Other equally contentious concerns relate to the whiteness of the main players in the industry and the plight of black farm workers in the shift from livestock to game farming. Game farming in South Africa, as is the case with other sectors of commercial farming, is dominated by white landowners, an outcome of the history of colonial dispossession and the racially discriminatory policies of the apartheid era in which white ownership over most of the land of South Africa was a central pillar. In 2017, according to the Land Audit of the Department of Rural Development and Land Reform (DRDLR), landowners classified as white under apartheid law still owned 72% of all farms and agricultural holdings owned by individual landowners in the country (DRDLR, 2017: 2). The continued skewed land ownership in post-apartheid South Africa has raised questions around social justice, the relevance of current land reform policies for redress as well as the position of black farmers in the political economy of the country – all questions which apply as much to the game farming industry as to other sectors of commercial farming. However, as Zulu (2015) has pointed out, in the case of game farming class is also an important issue to consider. The capital needed to run a successful game farming business is considerable, with the consequence that game farming is beyond the financial means of not only black farmers but many white farmers as well. This becomes abundantly evident at game auctions where the price of species, especially rare game species, has undergone a massive escalation in recent years. For example, in 2008 a sable bull sold at a world record price of R3 million; however, in 2012 this record was broken by another bull (Charlie) which sold for R12 million (Kriek, 2017; Thomas, 2017). Statistics obtained from the ‘Vleissentraal Auctioneers’ website indicate that in 2003 the total value of wildlife sold was R62 million while by 2013 the figure had jumped to R864.5 million.²

² This is a livestock marketing company in South Africa; www.vleissentraal.co.za/Auctions

1.1.2 The history of game farming

Game farming in South Africa has grown rapidly in the last 40 years, the emotive land question and biodiversity concerns it has raised notwithstanding. The growth of the industry in southern Africa has been noted since the 1960s and 1970s, following legislative changes in several southern African countries which granted landowners varying degrees of user rights over wildlife (Child, 1988; Carruthers, 2008). In South Africa wildlife had almost no monetary value in the mid-20th century and game on their farms was widely regarded by farmers as negative, because the animals competed for limited grazing land. However, the realisation that wildlife ranching possessed many income-generating possibilities gave impetus to the growth of the industry (National Agricultural Marketing Council (NAMC), 2006). The global economic slump in 1973, which adversely affected wool and livestock prices, resulted in the then Department of Agriculture and Fisheries launching an inquiry into wildlife administration (Carruthers, 2008). A Directorate Committee was set up in 1974 by that Department to formulate a new policy to promote the game farm industry in South Africa. In its report, unveiled in 1980, the Directorate Committee recommended that:

- 1) Intensive wildlife ranching be acknowledged as an official branch of farming and receive research funding and the necessary information and financial assistance (by way of tax relief, subsidies, etc.) from the Department of Agriculture;
- 2) Although actual ownership of wildlife should not be conferred on landowners, if farmers could prove to the authorities that they had fenced in their wildlife satisfactorily, they should become eligible for a 'Certificate of Adequate Enclosure', a move that would entitle them to subsidies as well as to other benefits (Carruthers, 2008: 173).

While the Directorate Committee recommendations of 1980 laid the foundation for the expansion of the game farming industry in South Africa, the most significant incentive associated with its growth occurred a decade later, with the passing of the Game Theft Act (Act 105) of 1991. This Act regulated the ownership of game, by giving landowners rights of ownership over the wildlife on their land, if a formal certificate of 'sufficient enclosure' as contemplated in section 2(2)(a) of the Game Theft Act had been obtained. 'Sufficient enclosure' refers to a landowner's ability to confine the species of game mentioned in the certificate to his/her land. It is worth pointing out that the Act was passed into law at a time when South Africa was just beginning to negotiate its transition to a post-apartheid society, a process in which the constitutional status of private property rights and the need for a future land reform programme were contentious issues (Walker, 2008a; Kloppers & Pienaar, 2014).

In the Game Theft Act of 1991, the understanding of ‘game’ encompasses “all game kept or held for commercial or hunting purposes and includes the meat, skin, carcass or any portion of the carcass of that game” (South African Government, 1991: 2). This policy change has been responsible for the marked increase in game farming in South Africa. For most farmers, the conferring of rights over wildlife shifted long-held views of wildlife as ‘vermin’ to a reconsideration of wildlife as an economic asset for landowners (Lindsey, Romañach & Davies-Mostert, 2009).

This enabling framework resulted in unprecedented growth in game farming in South Africa. According to Du Toit (2007), in 1965 there were only four fenced game ranches in South Africa, all located within the former North-Western Transvaal (now divided between Limpopo and North West Provinces). By 1980 there were thought to be a total of 399 farms entirely devoted to wildlife ranching, covering an area of 610,000 ha, and by 1987 the figures had increased to 1,760 farms, covering 6,200,000 ha (Taylor *et al.*, 2016). Some twenty years later, in 2006, there were an estimated 9,000 wildlife ranches in South Africa, both registered and unregistered, covering approximately 20,5 million ha., according to the NAMC (NAMC, 2006: 3). This amounts to almost 25% of all land designated as under ‘commercial agriculture’ in the country in 1996 (see Cousins & Walker, 2015: 2). More recent figures put private game farms (registered and unregistered) in South Africa as numbering around 11,500, with 20% of these game farms to be found within the Northern Cape Province (Department of Agriculture Forestry and Fisheries (DAFF), 2016).

1.2 Research problem and rationale

Despite the apparent success of game farming in South Africa, there are, as already noted, strong differences of opinion around the reasons for the shift from livestock to game farming and whether the shift represents a positive development from the perspective of environmental sustainability and social equity or not. The controversies revolve around crosscutting concerns relating to the industry’s standing regarding sustainable development, biodiversity conservation, workers’ rights, and land reform. Many analysts have argued that “it is a disenchantment with livestock farming, rather than belief in the inherent superiority of game farming, which is motivating commercial farmers to make the change” (Smith & Wilson, 2002: 11). In this vein Luck (2005: 86) argues that a combination of post-apartheid land reform,

legislative changes laying down basic conditions of employment for farm workers, agricultural deregulation and increased stock theft have all contributed to the growing interest in game farming among commercial farmers. Furthermore, the game farming industry continues to be dominated by white men and the ongoing exclusion of black people from the mainstream agricultural economy is neither politically nor socially sustainable (Brandt & Spierenburg, 2014; Mkhize, 2014). Rarely addressed in these debates, however, is whether a reconfigured game farming industry could be better aligned with land and agrarian reform and thereby offer new opportunities for black emerging farmers and smallholders, which is one of the considerations shaping my study.

At the same time, proponents of the industry have argued that in the Northern Cape the switch to game farming must also be attributed to environmental factors, because much of the province is marginal agricultural land that is being degraded through excessive grazing by small livestock (primarily sheep). Long-term overgrazing by small livestock has been identified as one of the major threats to biodiversity in the Karoo region of the Northern Cape, with some areas showing reduced ability to sustain livestock production as a result of persistent degradation (Hoffman, 2014). Of critical importance here are the observed changes in the amount and seasonality of rainfall in this region, which is being attributed to climate change (du Toit, O'Connor & Van den Berg, 2015; Zhang, Brandt, Tong, Tian & Fensholt, 2018) and linked to the reduced ability of the rangelands to support domesticated livestock. Climate change is expected to put further pressure on livestock farming into the future (Hoffman, 2014; Rojas-downing, Nejadhashemi, Harrigan & Woznicki, 2017), making a review of current farming systems imperative. Climate change affects natural resources (water, land and veld health) and the health of livestock, all of which have a direct impact on farmers' livelihoods and the different strategies they adopt in order to mitigate these impacts in their specific contexts (Nkondze, Masuku & Manyatsi, 2014). As will become clear throughout this dissertation farmers in much of South Africa, including the Northern Cape, are grappling with extremely serious and prolonged drought conditions which many experts regard as linked to changing climatic conditions.

The combination of climatic and non-climatic stressors described above is certainly exacerbating the vulnerability of farming systems in the Karoo. In the Ubuntu Local Municipality, the evidence of rangeland degradation is being attributed to both environmental factors, such as low and erratic rainfall, and anthropogenic factors, such as poor management practices (Ubuntu Local Municipality, 2016). As a consequence of these pressure, many

farmers in the Northern Cape are finding it more profitable to branch out into value-added activities such as game farming, rather than continue with conventional small livestock farming (Dean, Hoffman, Meadows, & Milton, 1995; Kraaij & Milton, 2006 and Otieno & Muchapondwa, 2016).

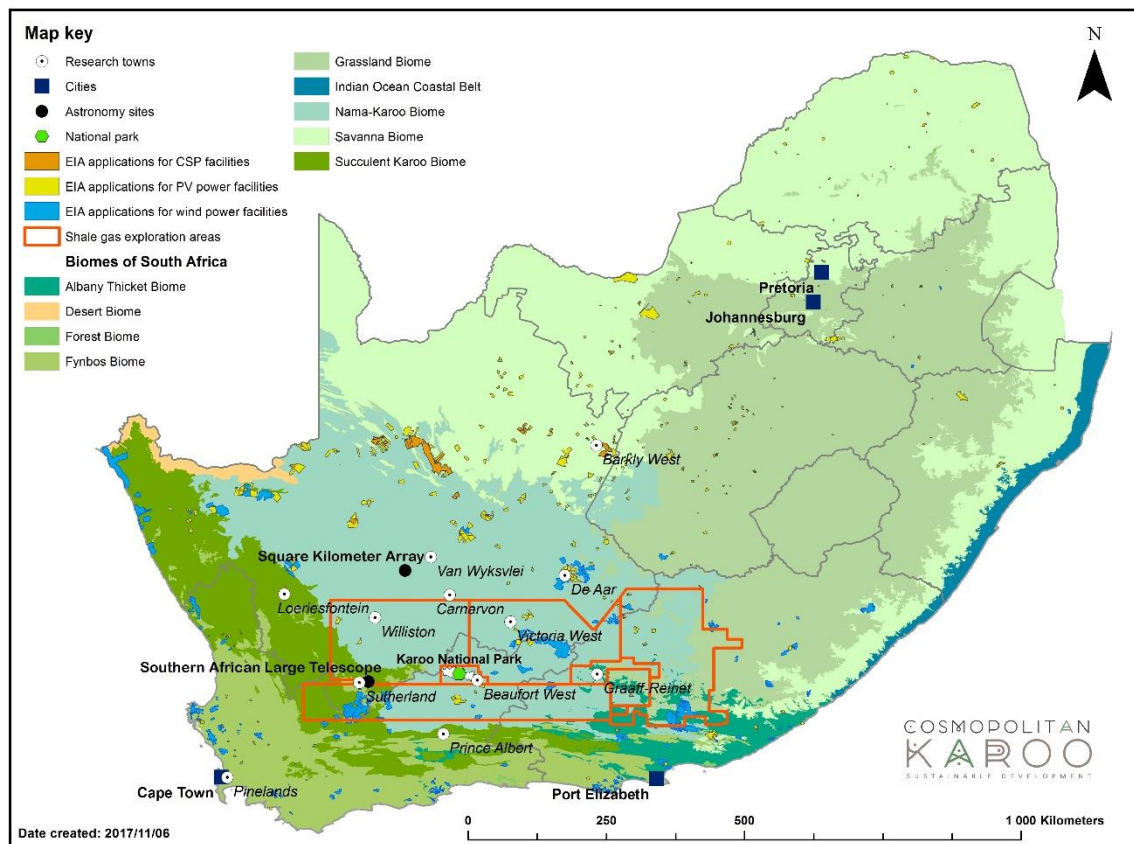
In this dissertation I argue that as much as land and agrarian reform are important for rural development in South Africa, the ecological limitations with which it must engage within the different provinces in the country must also be recognised. In the case of the Northern Cape, although it is the largest province by area, with the largest extent of privately-owned commercial farm land in South Africa, land reform is lagging behind other provinces in terms of the relative proportion of land that has been redistributed to black households since 1994 (Walker, 2018). At the same time, it is a semi-arid zone that is constrained in terms of its agricultural potential beyond the irrigable lands along the Orange River (Cloete *et al.*, 2007). The environment imposes constraints on the scope of redistributive land reform in terms of the numbers of beneficiaries and fulltime land-based livelihoods that can be supported sustainably (O'Connor, 2018). Land-use changes transform both natural and social landscapes. However, should the impacts exceed the ability of the environment to absorb them, they will result in the degradation of the same environment on which humans depend. Should land reform in this province then be simply a case of deracialising the ownership of commercial farms to include black South Africans on a demographically representative basis, or is there scope for including more black small-scale farmers as well – and if so, what is the potential of game farming in this regard? Or should the focus be directed to alternative land uses and other economic projects that can foster local development and offer decent livelihoods? As Bernstein (2015: 104) has argued:

[...] to conceive of South African agriculture today as a matter of overturning ‘the settler’ to redistribute land to ‘the tiller’ is to leave too much unexplored and unexplained, too large a gap between political rhetoric and effective analysis.

In this regard, of further interest are the significant non-agricultural and externally driven projects that have been promoted in recent years within the Northern Cape as important catalysts for socio-economic development (Walker & Chinigò, 2018). These developments include the construction of the Square Kilometre Array (SKA) radio telescope near Carnarvon, proposed shale gas and uranium mining across broad bands of land in the south, and the rapid growth in renewable energy projects (wind and solar) around the province (see Walker & Chinigò, 2018). (See-Fig 1.2 below.) At this stage, almost the whole province has been

designated an Astronomy Advantage Area (AAA) in terms of the Astronomy Geographic Advantage Act (AGAA) of 2007. This Act empowers the Minister of Science and Technology to declare smaller Astronomy Advantage Areas (AAAs) within the Northern Cape, to protect the national investment in astronomy and related scientific endeavours; to date a number of these AAAs have been declared around the SKA site as well as the South African Astronomical Observatory site outside the town of Sutherland. (On this see Henschel, Hoffman & Walker, 2018; Walker & Chinigò, 2018.) While the Ubuntu Local Municipality is not directly affected by the regulations promulgated for the AAAs around these two sites, the municipality does fall within the zones allocated for commercial prospecting for potential shale gas; it has also been targeted as a site for renewable energy projects. In respect of these externally driven projects, farmers in the Ubuntu Local Municipality have expressed their concern around the impacts of shale gas mining on water resources and natural vegetation and the negative consequences of this for the future of agriculture in the region (Borchardt, 2016). Renewable energy projects are viewed more positively as they can coexist with sheep and game farming.

Figure 1.2: Map showing different/proposed land uses in the study area



(Source: SARChI Research Chair in the Sociology of Land, Environment and Sustainable Development)

These investments and their impacts on the socio-economic status and ecology of the region are also necessitating a rethinking of the opportunities and challenges for sustainable development and the future of agriculture, currently the bedrock of the local economy. As observed by Hyvärinen (2018), although the switch to game farming has occurred swiftly in South Africa, the full implications of this trend for agriculture and land use management have not yet been established. In this context, it is important to understand the drivers behind the current shift to game farming and whether this industry can be better geared towards more sustainable farming practices. The latter needs to be viewed not simply in terms of the profitability of the enterprise over time but in terms of three “imperatives of sustainable development” as defined by Holden, Linnerud & Banister (2017: 213) and which I discuss more fully in Chapter 2, namely, “satisfying human needs, ensuring social justice and respecting environmental limits”.

The Northern Cape is of further interest because of the absence of in-depth sociological studies that explore commercial farmers’ reasons for shifting to game farming (small-scale farmers’ views even less) and the extent to which game farming might be aligned with more sustainable and equitable agricultural practices in the region. The number of scientific studies on the social dynamics and implications of this land-use change in the Nama Karoo is particularly limited. Most of the social science literature on game farming in South Africa has focused on the more densely settled and agriculturally more favoured eastern and northern provinces: Eastern Cape, KwaZulu Natal, Mpumalanga and Limpopo (Genis, 2012; Zulu, 2015). Given the scale of game farming in the Northern Cape, the challenging farming environment in this semi-arid region, and the urgency surrounding land reform nationally, it is important to find out if the motivating factors are similar in the Northern Cape, and, if they do differ, to understand the reasons for this difference.

1.3 Research questions

My overarching research question is whether game farming can contribute to sustainable development in the specific context of the semi-arid Nama Karoo. In order to address this, however, one needs to understand the motivations, views and practices of local farmers (black and white). My dissertation is thus structured around three cross-cutting clusters of research questions:

- 1) What considerations are driving commercial farmers in the Ubuntu Local Municipality to shift to game farming? What are the risks and benefits they associate with this shift? To what extent are concerns around sustainability and biodiversity conservation important considerations for them?
- 2) What are the views of emerging and small-scale farmers in the Ubuntu Local Municipality on the potential of game farming for themselves and what is shaping these views? What are the prospects for aligning game farming with land reform in this municipality?
- 3) What constitutes sustainable agriculture (understood as a form of farming that is aligned with the core principles of sustainable development) in the context of the Ubuntu Local Municipality? Could game farming be practised as a form of sustainable agriculture in this area and, by extension, in other semi-arid zones of South Africa and, if so, how?

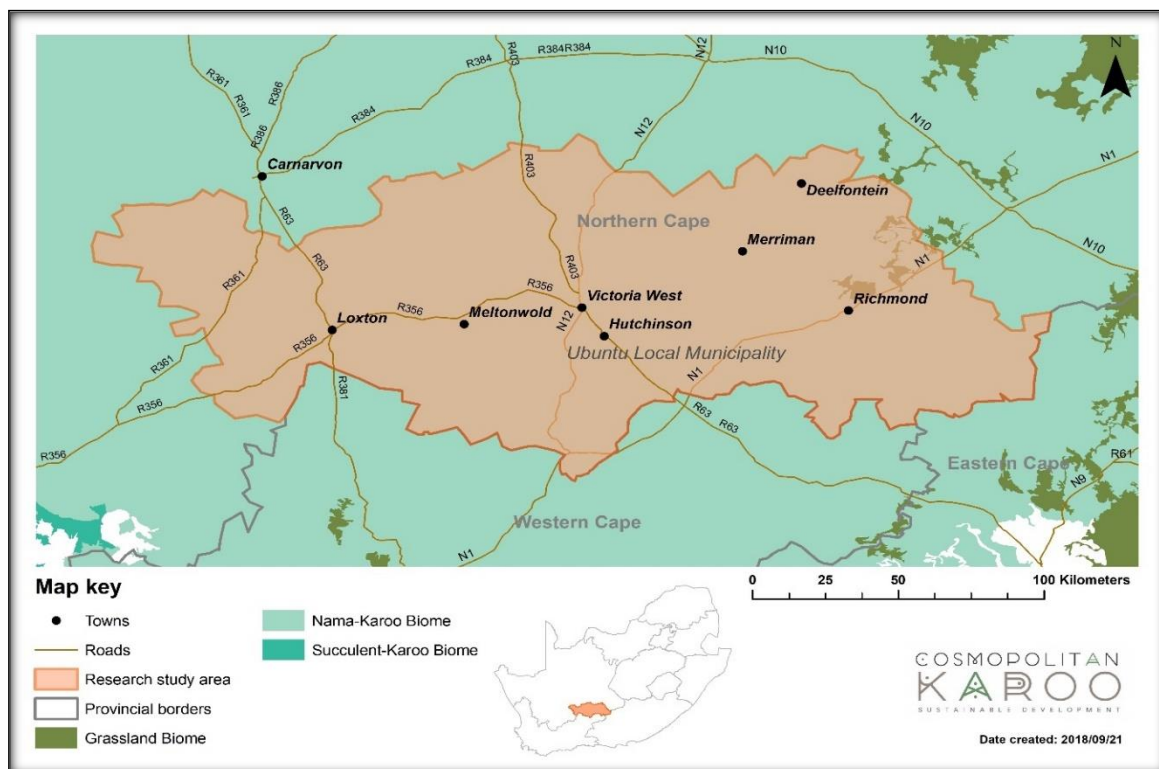
1.4 Brief description of the study site

Geographically the Northern Cape is the largest province in South Africa, occupying almost a third of the land area of the country, at a little over 37 million hectares (ha.) (Department of Environmental Affairs, 2015). It is also the most sparsely populated province, with approximately 1,23 million people, making up just 2,1 % of the total population of South Africa (Statistic South Africa, 2018). The economy of the province hinges on mining (mainly diamond mining, concentrated in the Kimberley district, along with alluvial diamond mining along the Orange River, as well as zinc, manganese, copper and iron ore) and agriculture, the latter accounting for 7 % of the real economy (Wood, 2016). Because of the arid nature of the province, livestock farming is the main farming system. The region is dominated by large-scale commercial farms which cover just under 30 million hectares of the province (Walker & Cousins, 2015). Pockets of communal farmers are concentrated in the former coloured reserves of Concordia, Komaggas, Leliefontein, Richtersveld, Pella, and Steinkopf (Jordaan, 2012); according to Walker & Cousins (2015) the total area allocated to coloured reserves makes up some 1 % (1,227,926 ha.) of the land area of South Africa.

The Ubuntu Local Municipality, in which my study is located, falls within the Pixley Ka Seme District Municipality which makes up 28 % of the total area of the Northern Cape province

(Eckard, 2015). It is the largest local municipality in the Pixley ka Seme District (at 2,038,900 ha.), followed by Kareeberg at 1,770,200 ha. (StatsSA, 2011). The main administrative offices of the municipality are situated in the small town of Victoria West which is the biggest service centre in the area (see Figure 1.3 below). The other towns within the Ubuntu Local Municipality are Richmond, Loxton and the railway siding villages of Hutchinson and Merriman. Victoria West and Richmond were established as Dutch Reformed Church centres in 1844, while Loxton was founded in 1899 around a Dutch Reformed Church mission school. As discussed more fully in Chapter 5, the towns and villages within the Ubuntu Local Municipality developed historically as agricultural centres, following the development of merino wool farming in the Karoo from the 1840s (Beinart, 2018a); later they also became staging posts for traffic *en route* to Kimberly during the 1860s diamond rush (that was triggered by the discovery of an 83.5 carat rough diamond in Hopetown by a Griqua herdsman).

Figure 1.3: The Ubuntu Local Municipality, showing main towns & roads



(Source: SARChI Research Chair in the Sociology of Land, Environment and Sustainable Development)

Small livestock farming remains the backbone of the economy of the Ubuntu municipality, with most livestock farmers specialising in both merino (wool) and dorper (meat) sheep (Eckard, 2015). As noted by Nel, Taylor, Hill & Atkinson (2011), history shows that the prosperity of Karoo towns rested for much of the 20th century on their service role for local

commercial farming. However, in the latter half of the 20th century commercial farming came under pressure for a combination of reasons that included declining demand for wool and mutton in the 1960s as well as declining state support for the sector from the 1980s. Post-apartheid land and labour reform policies and declining environmental capacity have added to the mix, resulting in farm abandonment and reduced demand for labour. (On this see, *inter alia*, Atkinson, 2007a; Nel & Hill, 2008; Nel *et al.*, 2011; Brandt, 2013; Hill & Nel, 2018.)

These factors have contributed to the declining economies of most small Karoo towns, while the retrenchment and displacement of farm workers has increased unemployment and reliance on government social grants. The urban population of the Ubuntu municipality is largely dependent for their livelihoods on limited employment opportunities in agriculture, tourism, retail, the government sector and social grants. In an interview, the Municipal Manager of the Ubuntu municipality indicated that high levels of unemployment of residents between the ages of 18-65 years have created a population that is dependent on government welfare support (social grants) (Municipal Manager, interview, 2016). The Ubuntu Integrated Development Plan of 2016-2017 attributes a range of social problems to the high levels of poverty among townspeople, including drug and alcohol abuse, high levels of high school drop-out rates and teenage pregnancies, and crime (Ubuntu Local Municipality, 2017).

Land ownership in the municipality is still strongly racialised. Information that I was able to obtain from the Department of Agriculture Forestry and Fisheries (DAFF) Extension Officers in Victoria West, indicates that all commercial farms in the area are white-owned. All the commercial farmers I interviewed were white while all the small-scale farmers I interviewed identified themselves as black African or coloured. There is one land reform farm, Mardeck, (near Victoria West) which was acquired for black emerging farmers by the state. A small number of black residents of Victoria West have access to the municipal commonage for grazing some livestock, while others are supplementing their livelihoods as ‘backyard’ farmers.

The switch to game farming has been one of the internal responses by commercial farmers to adapt to the “agricultural as well as existential crisis” (Brandt, 2013: 99) they are facing as farmers. Options for small-scale farmers, however, remain severely hampered by their limited access to natural and financial resources, amongst other considerations (see Chapter 8). As in other parts of the country, game farming (along with hunting and ecotourism) has gained increasing prominence in the municipality since the 1990s (Ubuntu Local Municipality, 2017), although farmers I interviewed pointed out that there has always been some hunting on farms

(both recreational and commercial), given the natural occurrence of wildlife in the area. Unlike areas where farmers have switched completely from livestock to game farming operations, the tendency I have identified within the Ubuntu Municipality is for farmers to make only a partial switch to game farming, with commercial farmers who have embraced game farming dividing their land into different sections for livestock and for game. As argued by one affluent livestock farmer in the area, “these farmers farming with game should not call themselves game farmers, rather they should refer to themselves as mixed farmers” (livestock farmer Johannes, interview, 2017).

That said, the farmers who are actively farming with game did identify themselves as game farmers in my encounters with them, because they see themselves as game farming pioneers in the area and because it helps to differentiate their farming enterprises from those where livestock farming is the sole business. As discussed further in Chapter 6, commercial farmers in the Ubuntu municipality acknowledge that their area is good for livestock farming; however, both the economic pressures and the environmental pressures already identified above are seen to be bearing down heavily on livestock farmers. The game farmers I interviewed maintained that by diversifying their farming operations to include game farming they are minimising the financial risks associated with relying purely on income generated from livestock farming.

1.5 Chapter outline

My dissertation unfolds over eight chapters in addition to this introductory chapter; the focus of chapters 2- 9 is briefly summarised below.

Chapter 2: Conceptual framework: Political ecology, sustainable development and land reform

This chapter elaborates on the key concepts that have been introduced above: political ecology, sustainable development and agriculture, biodiversity conservation and land reform. Political ecology highlights issues of access, power and influence and how they impact on environmental use and its management amongst different actors with different interests, motivations, and resources. Further, including a historical and political analysis illuminates how environmental changes have shaped political and economic processes in South Africa, and

how these processes have in turn also shaped environmental changes and land uses. As explained in this chapter there is a close relationship between these concepts; for example, for the social justice dimension of sustainable development to be achieved in South Africa, there needs to be a redistribution of resources which can in part be achieved through land reform. The differentiated access to land has repercussions on the way in which it is used and managed.

Chapter 3: Research design and methodology

This chapter details the research design and methodology utilised in this study, that of a case study design deploying a mixed-methods approach (both qualitative and quantitative), which was regarded as best suited to an exploration of the dynamics shaping farmers' use and management of resources in the Ubuntu Local Municipality. This chapter also reflects on my positionality as the researcher and how this impacted on the data collection phase. Further, it discusses identified limitations of the study and how, as researcher, I attempted to navigate them.

Chapter 4: The game farming industry in South Africa: A literature review

This chapter gives an overview of the game farming sector in South Africa. It first outlines the characteristics of the game sector and the regulations under which it must operate and then reviews various studies on the game sector and the ongoing debates and concerns on the growth of the game sector and its social, economic and environmental impacts. Here the perspectives from political ecology and the literature on sustainable development are very important in understanding the politics surrounding the drivers behind this land-use change and its implications for the wider society.

Chapter 5: Land, agrarian and environmental change in the Northern Cape: A historical perspective

This chapter locates this study in terms of the historical scholarship on the dynamics that have shaped the current, region-specific context in which the land use change to game farming has gained currency. A context-based analysis helps in understanding the factors that have contributed in the growth of this sector in the Northern Cape; further, it helps in understanding

the reasons why critics of this sector find it socially undesirable. However, factoring in the environment in which farmers must operate in the region also opens up the space for dialogue as to the sustainability of various farming operations, considering climate change, and the nature and contribution of land reform in this context.

Chapter 6: A profile of commercial farming and farmers in the Ubuntu Local Municipality

Chapters 6, 7 and 8 present my primary research findings developed from the analysis of my data (collected quantitatively through the survey and qualitatively through interviews, observations and the analysis of secondary data sources). Chapter 6 presents a profile of who the commercial farmers in the Ubuntu Local Municipality are, in terms of demographic factors such as race, gender, age and education. It also presents commercial farmers' understandings of their farming context, including the challenges they face as farmers in this context, and the coping strategies they are adopting in dealing with these challenges (including changes in weather patterns in the region).

Chapter 7: Game farming, sustainable agriculture and biodiversity conservation

This chapter presents commercial farmers' understandings of sustainable agriculture and how these understandings have shaped their farming practices and strategies towards conservation. Further, this chapter explores factors that have motivated some farmers in the municipality to switch to game farming while also exploring why other farmers (the majority) have remained in livestock farming. This chapter also presents the different farming practices and strategies that farmers in the area are utilising in ensuring economic and environmental sustainability.

Chapter 8: Prospects for emerging and small-scale farmers in the game farming industry

This chapter juxtaposes the small-scale farming sector to the large-scale commercial sector in the Ubuntu Local Municipality. This chapter argues that in order to develop small and emerging farmers in the South African context, it is necessary to analyse their position within the broader political economy and how this has shaped their access to resources. The inequalities in access to for example, environmental resources as a result of historic racially oppressive government policies (see chapters 2 and 5) continue to hamper the development of this sector. This chapter

further explores how issues of access to natural resources have a bearing on how land is used and managed. Though large-scale farmers and small-scale farmers are operating within the same context and are affected by the same environmental pressures, how these impacts are experienced and the ways they cope differ markedly. This chapter also investigates whether there could be a place for small-scale farmers within the game farming sector and how national policies as well as projects and programmes undertaken by provincial departments of agriculture and local government could be geared towards promoting equitable access to resources for small-scale and emerging farmers.

Chapter 9: Conclusion

This chapter knits together my research findings, conceptual framework and broader literature review to synthesise key findings and reflects on the implications of these findings for the game farming sector and sustainable agriculture, hence sustainable development, in the Karoo, in a context of social-ecological change.

Chapter 2: Conceptual framework: Political ecology, sustainable development and land reform

Commercial livestock farming has anchored livelihoods within the Northern Cape since the middle of the 19th century, but, as is discussed more fully in chapters 3 and 7, a combination of economic, political and social-ecological change is putting pressure on the continued viability of this sector. As a result, many commercial farmers are exploring new opportunities, with game farming seen as a promising alternative to livestock farming by some. Game farming promises more profitability, with the average return in the game farming industry nationally put at R220 per hectare in 2015, compared to the average return for cattle farming at R80 per hectare (Goodrich, 2015). However, while game farming has generated new economic opportunities for commercial farmers, through value-adding activities such as ecotourism, hunting, game breeding, meat production, and taxidermy, it remains a contested land use. Although the game farming industry in South Africa has emphasised its contributions to conservation and ‘greening’ the economy, many analysts remain sceptical of these claims, for the reasons that have been already noted, including concerns about the commodification of nature and the sector’s ambiguous relationship to land reform.

In this chapter, I review the conceptual framework that I have adopted to assess these competing claims in the context of the Ubuntu Local Municipality. I begin with a discussion of my choice of political ecology as my overarching theoretical framework, because of its attention to the interplay of politics, economics, and ecology, all of which are critical for understanding the context in which the game farming industry has emerged. This is followed by a discussion of three concepts that are central to my analysis of land-use change and management, namely sustainable development, sustainable agriculture, and biodiversity conservation, including its significance in South Africa. Thereafter, in section 2.4., I conclude with a brief overview of South Africa’s land reform programme, given its centrality in debates on social justice and the past and future of agriculture in the country. (A more detailed account of land reform in the Northern Cape is found in Chapter 5).

2.1 Political ecology

The burgeoning field of political ecology has made a significant contribution to our understanding of how struggles over land-use changes and resource utilisation have been shaped by the intersection of political, economic, and environmental dynamics throughout history. As pointed out by Bryant & Bailey (1997: 31-32):

different types of environmental change become meaningful only in the context of an integrated understanding of human/ environmental interaction in which political and economic inequalities influence the social distribution of the costs and benefits of everyday and episodic changes.

Peter Walker (1998) has summarised the primary concerns of political ecology as follows: (1) issues and policies impacting on local resource use; (2) how social and economic relations at different scales (the household, the community, the state, etc.) shape local resource management; (3) the way that historical processes continue to perpetuate inequalities in the present day; and (4) the human/nature relationship, the latter understood as inherently political in that it is mediated by (unequal) power relations. These concerns are all critical for understanding the debates that cloud the game farm industry in contemporary South Africa. For example, the history of land dispossession in South Africa has favoured the entry of white commercial farmers into game farming by virtue of their privileged access to ownership of one of the primary resources essential for the industry, that is farm land. Their privileged access is a result of a history of state-driven dispossession of black land rights that resulted from the unequal power relations between white and black historically and continues to govern access to land and other resources in the present day. At the same time, as small-scale farmers in the Ubuntu municipality repeatedly emphasised to me during my interviews with them, it is impossible for them to look beyond livestock farming to other livelihood options as they are still barely equipped to make gainful returns from livestock production (see Chapter 8).

Political ecology has grown as an interdisciplinary field of investigation since the 1970s, as many analysts became increasingly uncomfortable with apolitical explanations of environmental degradation which attributed responsibility for these environmental problems to factors such as population growth, entrenched poverty, inappropriate technologies, local traditions and poor management by land users, all seemingly disconnected from unequal social relations (Peet, Robbins & Watts, 2011). According to Robbins (2012: 14), political (as opposed to apolitical) ecology assumes that political processes affect environmental and

ecological change and conditions. List & Ritteberger (1992: 88) argued that though ecological problems tend to be at the centre of international environmental conflicts, the political dimension surfaces through the articulation and mediation of “diverging goals and interests i.e. *ecology becomes political ecology*”.

The roots of political ecology can be found in neo-Marxist schools of thought that emphasise the relations of production driving class inequalities and exploitative first/third world relationships as the root cause of environmental change. Wolf (1972: 201-202), who first coined the term political ecology, stressed that a political economy perspective was necessary to understand the significance of relationships of power in local resources use and management:

The property connexion in complex societies is not merely an outcome of local or regional ecological processes but a battleground of contending forces which utilize jural patterns to maintain or restructure the economic, social and political relations of society. Thus, capitalism progresses through the employment of jural rules of ownership to strip the labourer of his means of production and to deny him access to the product of his labour.

Political economy is political in that it focuses on the significance of unequal power relations in determining who gets what, when, how and why in the distribution of public goods (Laswell, 1950); its focus on the economy involves an analysis of how scarce resources are allocated and goods distributed among individual actors (Ricardo, Jevons & Marshall, 2009). Bringing political economy and ecology together thus involves attending to political and economic agendas that have real effects on land-based and marine resources, the natural environment, and people. It also highlights issues of unequal power relations amongst different actors in the accessing of different resource (Blaikie & Brookfield, 1987).

The neo-Marxist influence in political ecology is seen in Blaikie’s (1985) study of the political economy of soil erosion in developing countries, in which he highlights how environmental problems such as soil erosion are a manifestation of underlying political and economic processes that are linked to the spread of capitalism. Blaikie argued that under capitalism surpluses are extracted from peasants and pastoralists who then, in their struggle to maintain their livelihoods, must over-utilise their environment, taking more out of the soil, pastures, and forests than they can afford to invest back. This process, he argued, was exacerbated by the displacement of these land-users from their original land, leading to their confinement on ever smaller pieces of land areas and resulting in land degradation (Blaikie, 1985). Blaikie’s account

resonates with the history of land ownership in South Africa, with black farmers who were dispossessed of their land in both the colonial period and in apartheid South Africa being squeezed onto the limited communal lands (the former Bantustans or homelands) that were set aside for their use. This resulted in the over-utilisation of natural resources and extreme land degradation in these areas. Another illustration of Blaikie's argument can be found in the very different context of the Nama-Karoo, where the growth of international wool markets in the mid-19th century resulted in the over-utilisation of the veld as pastoralists competed to produce for the new markets that were opening for them. (On this see Chapter 5.)

Political ecology thus directs our attention to understanding how historical processes have shaped and been shaped by human-environment interactions; as pointed out by Ana & Terry (2017: 12) "things are not discrete but relational, they have a history and an external connection with other things, in constant interaction and transformation, in a state of ongoing becoming". Political ecologists argue that programmes and policies intended to address environmental problems that do not address the underlying political causes of environmental management problems are bound to fail. Once one has accepted this, then it becomes clear that initiatives to promote the conservation of natural resources, whether through Protected Areas (PAs), Community Based Natural Resources Management (CBNRM) or private game reserves/farms, cannot be understood as standing apart from politics (Adams & Hutton, 2007).

An important branch within the political ecology literature deals not only with institutional politics but extends the investigation of power relations to consider everyday interactions. This literature, often linked with the work of Arturo Escobar in the 1990s, follows a post-structuralist understanding of the knowledge-power-practice nexus around environmental change. This literature embeds political ecology in the politics of knowledge and science, drawing attention to how certain ways of understanding the world, Western scientific knowledge systems in particular, are privileged over others (Blaikie & Brookfield, 1987; Adams & Hutton, 2007). Peet & Watts (1996: 3) maintain that this focus has produced a more robust political ecology in which politics are more centrally integrated with local dynamics – because of this work the "politics of meaning", knowledge construction, and postcolonial/ decolonial critiques of development and modernity are all taken seriously.

I have found the post-structural strand of political ecology useful for my study because it directs the researcher to engage seriously with the multiple points of view from which ecological change is understood in a given locality. Poststructuralist political ecology encourages the

researcher to ask questions about why things have turned out the way they have and to look at history more analytically. It thus encourages scepticism around given meanings of concepts such as sustainable development, conservation, participation and democracy (Khan, 2013). For instance, in the case of game farming in South Africa, game fences are not simply enclosures for keeping wildlife within farm boundaries but, as argued by Brandt & Spierenburg (2014: 221), also represent commercial farmers' claim to the land, keeping out other claimants and the government. At the same time political ecology also encourages reflection on the set of meanings that one brings to one's study as researcher, which is why it was important for me to acknowledge my identity in Chapter 1. As already noted, in developing my initial research proposal I had to work through a large body of literature on the shift to game farming, in which the positionality of the authors and its influence on their studies was often very clear, and this made me more conscious of my own – an issue I return to in Chapter 3.

While political ecology has thrived, Peter Walker (2005: 73) has raised questions about both its coherence and the extent to which political ecologists are paying sufficient attention to ecological dynamics in their analyses. Nygren & Rikoon (2008) have also argued that the focus on socio-political struggles related to the environment has resulted in the role of ecology in political ecology becoming less central. The development of sophisticated insights into the power relations of resource access and control has thus come at the cost of insights of natural scientists into ecological processes, environmental change and human-environmental interactions (Nygren & Rikoon, 2008: 768).

A decade earlier Grossman (1999: 153) was already arguing that social constructivist analyses of nature tend to frame the environment as a passive product of political-economic forces. This is a caution that I have taken seriously in this study: in arguing for the centrality of the quest for social justice in South Africa's land dispensation, I also stress the need for land reform projects to be designed with much greater cognisance of environmental factors than is commonly displayed by analysts and policymakers. Understanding and respecting the constraints that ecology places on farming is particularly important in a semi-arid area like the Nama Karoo. At the same time "ecological arguments are never socially neutral, any more than socio-political arguments are ecologically neutral" (Harvey, 1993: 25).

Understanding the way in which politics and ecology interact is thus fundamental for the analysis of what sustainable development (hence sustainable agriculture) entails. As Peet & Watts (1996) noted over twenty years ago, much of what has driven the rise of political ecology

has been concern about the injustices being committed against both local peoples and the environment in the developing world. While this concern has been variously expressed among political ecologists, it has often failed to translate into successful initiatives, practices, and policies because of a 'business as usual approach' (Walker, 2005). In this regard Robbins (2012: 20) has argued that political ecology must attempt to both critique the dominant narratives of environmental change and explore alternative actions against environmental mismanagement.

Political ecology thus not only looks critically at the increasing human impoverishment and land degradation arising from dominant development models fuelled by capitalism (Robbins, 2012), but is also concerned with the development of alternative, sustainable modes of social organisation. Because of its 'normative' approach to analysis political ecology offers the hope that "there are very likely better, less coercive, less exploitative, and more sustainable ways of doing things" (Robbins, 2004: 12). To this extent environmental crises can be productive, according to Burke & Shear (2014: 129):

[they] present opportunities to move beyond the conventional "solutions" of coping and accommodating, managing and adapting, resisting and reforming. They create space for social and economic experimentation, new political alliances, new cultural narratives, and alternative social and socio-ecological relations. In short, these crises may give rise to new modes of being in the world that can move us toward a more sustainable and egalitarian future

The value of political ecology for this study lies in its recognition that "environmental challenges are, at root, social problems that arise from income and power inequality" (Laurent, 2015: 1). It has offered me a very useful lens through which to look at the motivations behind Ubuntu farmers switching to game farming or staying in livestock production and the different resource management strategies they have utilised. The attention to historical processes encouraged by political ecology has also been very useful for understanding the different perspectives on land, farming and land degradation adopted by large-scale commercial and small-scale farmers. As noted by Paulson, Gezon and Watts (2003:11), by incorporating an analysis of asymmetries of power and differences when investigating environmental issues in various contexts and scales there will be more nuanced understandings of "causal connections among diverse factors at play".

These considerations have been central for exploring the interplay of environmental, economic and social factors in Ubuntu farmers' decision-making and management of resources, and for

developing a holistic understanding of the issues that sustainable development and sustainable agriculture in the Nama Karoo need to address.

2.2 Sustainable development

2.2.1 Defining sustainable development

The concept of sustainable development emerged prominently in public discourse in the late 1980s, when it was defined by the *Report of the United Nation's World Commission on Environment and Development* (more commonly known as the Brundtland Report, after its Chairperson), as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (WCED, 1987: 43). The WCED was established in 1984 and the Brundtland Report was produced in preparation for the Earth Summit in Rio de Janeiro in 1992, with the intention of drawing global attention to the severely negative impact of human activity and patterns of economic growth and development that were deemed unsustainable if allowed to continue unchecked. Debate centred on the causes of environmental problems and the relationship between anthropogenic drivers of environmental degradation (such as industrial development and population growth) and natural causes (floods, earthquakes, droughts etc.), as well as the significance of technology and science in addressing the challenges (Klarin, 2018). The 1992 Earth Summit marked a critical moment in global concern around sustainable development. It produced the ‘Rio Declaration on Environment and Development’ (United Nations, 1992) which identified 27 principles of sustainable development that were deemed essential for protecting the integrity of the global environment and recognising the interdependence and interconnectedness of nature across the globe.

Sustainable development since the Brundtland Report of 1987 has been recognised as embracing three key elements: “(1) the concept of development (socio-economic development consistent with ecological constraints), (2) the concept of needs (redistribution of resources to ensure the quality of life for all) and 3) the concept of future generations (the importance of managing resources utilisation so as to ensure the quality of life for future generations)” (Klarin, 2018: 68). Building on the framework forged by the Rio Declaration, numerous international Conferences and Summits have been convened to take the commitment to sustainable development forward on the global stage. In 2000, at the UN Millennium Summit, the UN General Assembly adopted the United Nations Millennium Declaration. This called for

a global partnership to reduce extreme poverty in developing countries and identified eight Millennium Development Goals (MDGs), including the eradication of extreme poverty and hunger, ensuring environmental sustainability and building a global partnership for development. A major problem with the MDGs was that UN member “countries adopted a ‘piecemeal approach’, choosing to engage with some but not all of the goals” (Woodbridge, 2015: 2). The MDGs were subsequently replaced by 17 Sustainable Development Goals (SDGs) in the UN’s 2030 Agenda for Sustainable Development which was adopted in 2015. Unlike the MDGs, the SDGs are intended to apply to all countries, thus removing the division between ‘developing’ and ‘developed’ countries for which the MDGs had been criticised (Woodbridge, 2015).

However, although the Brundtland Report popularised the concept of sustainable development globally, leading to its widespread endorsement across different sectors, giving the concept content has been subject to much contestation. The WCED itself acknowledged the diversity of opinion around what the term entails, which was evident at the 1992 Earth Summit where there were major disagreements between representatives of developed and developing countries (United Nations, 1992). While authors like Bardwell (1991) have argued that the very breadth of the idea of sustainable development is what has allowed the concept to be used successfully, unlike narrower concepts such as ‘Limits To Growth’ (LTG) which have failed, others have been concerned about the dangers of the term being too malleable, hence becoming meaningless in policy terms. In this vein Lélé (1991:613) cautioned about the term being a

"metafix" that will unite everybody from the profit-minded industrialist and risk-minimizing subsistence farmer to the equity-seeking social worker, the pollution-concerned or wildlife-loving First Worlder, the growth-maximizing policy maker, the goal-oriented bureaucrat, and therefore, the vote-counting politician.

This links to the difficulties associated with trying to measure sustainability in practice, especially with regard to its social and environmental dimensions (Bansal, 2002; Hall, 2011; Stoddard, Pollard & Evans, 2012).

The huge diversity of ways in which the concept of sustainable development gets employed has led some academic critics e.g. Sneddon, Howarth & Norgaard (2006: 260) to argue that sustainable development is a ploy by those in power to discount the ambitions and needs of marginalised populations. Building on criticisms of the green economy, they argue that the concept of sustainable development is, in Redcliff's (2005) words, “an oxymoron”, i.e. a

contradiction in terms that is intended to bundle competing interests and strategies together, thereby giving a certain moral legitimacy and presumed coherence to socially and environmentally dubious economic policies that might otherwise be less acceptable. As argued by Sneddon, Howarth & Norgaard (2006), there is no guiding model to arbitrate the often conflicting objectives of economic logic (which under a capitalist systems gets translated into profitability), social justice and ecological equilibrium. The objectives of reconciling the material well-being of humans on the one hand and that of environmental sustainability on the other too often conflict with each other.

Growing awareness of the limits to economic growth imposed by nature has resulted in the increased integration of political ecology discourses within local and global forums aimed at fostering more sustainable utilisation of resources and promoting a 'green' economy. A green economy as defined by the United Nations Environment Programme (UNEP) (2011: 22) is one resulting in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities". At the same time analysts have raised concerns about the extent to which the ongoing commodification of nature is now being proffered as a solution to economic challenges by institutions like the World Bank and UNEP (Kopnina, 2017). The commodification of nature, which refers to processes of incorporating biophysical entities and/or information about them into economic systems for exchange at a profit (Gunderson, 2017), is seen as exacerbating the already precarious relationship between humanity and nature. In this regard Burke & Shear (2014: 128) argue that humanity stands at the precipice of two major crises, economic and ecological.

In adopting the concept of sustainable development into my conceptual framework, I am very cognisant of these concerns and the fact that the game farming industry has been accused from different quarters of abusing the idea of sustainable development to serve its own needs, through the commodification of nature and various forms of 'greenwashing' (i.e. dressing up as environmentally friendly practices that are actually unsustainable). For example, it has been accused of overstating the number of species that have been saved from extinction through the game industry's efforts. In negotiating these concerns I have been guided by the understanding of sustainable development put forward by Holden, Linnerud & Banister (2016) who do not reject the term because of the contradictory or limited ways in which it gets deployed, but, rather, insist on the importance of its core message: that the commitment to sustainable development necessarily involves "constraints on human activities, including our efforts to maximize economic value" (2016: 2). Contrary to the popular tripartite model of sustainable

development as finding a ‘balance’ between environmental, social, and economic issues that is generally weighted towards the latter, Holden *et al.* (2016) argue that the economic dimension of sustainable development cannot be equated with economic growth. They recognise that the inequalities in human development around the world mean that some degree of economic growth may be required to achieve sustainable development in places where basic human needs are not being met, but growth cannot be an end in itself.

The model of sustainable development that Holden *et al.* (2016) have developed is one that rests on what they describe as three non-negotiable moral imperatives that all have to be met, in tandem with each other, if development is to be considered sustainable. These moral imperatives are: satisfying basic human needs, ensuring social equity and respecting the environmental limits to economic activity. In their understanding of environmental limits they endorse the idea of ‘planetary boundaries’ that must be respected while their understanding of basic needs is indebted to the work of economist Amartya Sen. Planetary boundaries are ecological thresholds which, once crossed by humanity, put the entire functioning of the earth system as we know it at risk (Jaramillo & Destouni, 2015). Sneddon *et al.* (2006: 262) have described Sen’s approach to economic development as a radical departure from the unsustainable pursuit of wealth, towards freedom based on justice and dignity.

The model of sustainable development proposed by Holden *et al.* (2017) thus identifies economic development as a human activity that should be managed to ensure that issues of equity, needs and limits are respected. They view sustainable development as a “normative value system” which can be promoted by rethinking the values, ethics and behaviours of individual actors. Building on this, Holden *et al.* (2016) develop an account of sustainable development that does not dismiss the tripartite division between the economic, the social and the environmental that informs the UN’s Sustainable Development Goals (although they are critical of the many indicators built into the SDGs), but reinterprets them in terms of the three equally important, non-negotiable moral imperatives described above. What makes Holden *et al.* (2016) particularly useful for my study is their recognition that in practice the three dimensions of sustainable development cannot be understood in exactly the same way throughout the world, because the contexts in which they have to be operationalised differ. Thus, as already noted, in many places some form of economic growth may be essential to lift people out of poverty.

This recognition is important because in South Africa the major obstacle to attaining sustainable development in the way that Holden *et al.* (2016) define it has been the difficulty of promoting much-needed economic development while simultaneously advocating against profit-oriented activities with high environmental and social costs (see Milton & Dean, 2015). Inequalities in the access of economic opportunities has rallied tensions in most societies, making pragmatic governance towards social and environment goals increasingly difficult (UNESCO, 2016), and South Africa is no exception. The concept of sustainability does, however, have an important role to play in developing policies and programmes that acknowledge and bridge these tensions. The concept of sustainability highlights that development must “adhere to the physical constraints imposed by ecosystems, so that environmental considerations have to be embedded in all sectors and policy areas” (Carter, 2007: 212). At the same time, from a social perspective development can only be sustainable if, following Sen, the people concerned have the capabilities to manage the development initiatives themselves. Developing methods of interactive decision-making is therefore crucial for engaging relevant interest groups and communities in creating the future they want to build (Robinson, 2000).

Understanding sustainable development in terms of its contribution not only to economic development but also to the goals of social justice and respect for environmental limits is valuable not only for understanding the debates around the sustainability credentials of game farming in South Africa, as it is currently practised, but also for exploring its potential contribution to a sustainable agricultural sector into the future. In the next section I consider what this discussion on sustainable development brings to our understanding of sustainable agriculture.

2.2.2 Sustainable agriculture

Agriculture remains the main source of livelihoods for the majority of people in many developing countries; however, making it sustainable in the different agro-ecological, political and economic contexts within which it is practised remains a challenge. The concept of sustainable agriculture emerged in the 1980s in conversation with that of sustainable development, reflecting growing interest in a more regenerative agriculture that focuses on conservation and building the productive capacity of the natural resource base (Curtis, 2015; Robertson, 2015). The search for alternative farming practices has seen a proliferation of

responses, including approaches to farming described variously as ecological farming, conservation farming and organic farming.

The major impetus behind visions of sustainable agriculture, according to Robertson & Harwood (2013), came from the backlash against the negative environmental impacts of the industrial intensification of agriculture in the 1960s (mono-culture, farm mechanisation, pesticides, genetically modified seeds and animals etc.), coupled to the oil crisis of the early 1970s and concern over the growing gap between rich and poor people in the world. As described by Gliessman (2015), contemporary commercial agriculture is built around production systems aimed at profit maximisation, which has resulted in the flourishing of what is described as ‘industrial agriculture’ and farming practices that have come with direct social and environmental costs. According to Gliessman (2015), the seven most costly “practices of industrial agriculture are monoculture, animal factory farming, intensive tillage of the land, irrigation farming, the application of inorganic fertilizer, chemical pest control and the genetic manipulation of domesticated plants and animals”. The concentration on profit maximisation in industrial agriculture means that the ecological dimensions of agriculture are ignored (HLPE, 2017).

Sustainable agriculture, in contrast, extends the concept of ‘sustainable development’ to the agriculture sector, with an emphasis on respecting the ecological foundations underlying agricultural systems. As defined in the U.S. House of Representatives’ Conference Report on the Food, Agriculture and Trade Act of 1990, quoted in Debertin & Pagoulatos (2015: 7), sustainable agriculture is:

[...] an integrated system of plant and animal production practices having a site-specific application that will, over the long term: (1) satisfy human food and fiber needs; (2) enhance environmental quality and the natural resource base on which the agricultural economy depends; (3) make the most efficient use of non-renewable resources and on-farm resources, and integrate, where appropriate, natural biological cycles and controls; (4) sustain the economic viability of farm operations; and (5) enhance the quality of life for farmers and society as a whole.

This definition can be stretched to align with the understanding of sustainable development put forward by Holden *et al* as discussed above, by emphasising the commitment to social justice implicit in the fifth element. Most conventional definitions of sustainable agriculture, however, focus on the alignment of economic objectives with greater respect for environmental conditions, without paying much attention to concerns with social equity. Thus for Altieri,

(1992: 28) sustainable agriculture refers to a “mode of farming that attempts to provide long term sustained yields through the use of ecologically sustainable sound management technologies”. Similarly, Mason (2003: 4) has defined sustainable agriculture “as a system of empowering farmers to work with natural processes”, with the objective of conserving resources such as “soil and water whilst minimising waste and negative environmental impacts”.

This understanding of sustainable agriculture was very prevalent amongst the farmers I interviewed in the Ubuntu Local Municipality, with commercial farmers generally associating agricultural sustainability with its economic and environmental dimensions. However, consistent with the U.S. definition quoted above, Kirsten & Van Zyl (1998) have argued that sustainable agriculture should not only be about the benefits for the environment but also about the well-being of farmers and local communities as well – in which farm workers must surely be recognised as a key constituency. For agriculture to be viewed as fully sustainable there is thus a need for it to be aligned with broader social commitments to social equity and social justice which, in the South African context as section 2.4 below makes clear, includes more equitable access to land. Sustainability problems in agriculture do not only arise from the human/nature nexus but also, as noted by Allen (1993: 2) and consistent with the tenets of political ecology, from “contradictions within society itself”; in addition, what are often construed as ‘natural’ or environmental problems (e.g., floods obliterating housing) result from social factors (e.g., state policies encouraging flood plain developments).

Sustainable agriculture in South Africa

In South Africa, there has been a growing recognition of the importance of agriculture in the ‘green economy’ (Musvoto, Nahman, Nortje, Wet & Mahumani, 2014), but fully sustainable farming is far from being the norm. As elsewhere, agriculture in South Africa is dependent on functioning natural ecosystems that produce critical goods and services for people and support agricultural practices (Goldblatt, 2011). Agriculture currently employs some 709,000 people and, according to a recent community survey, 13,8 % of all South African households can be classified as agricultural households (Statistics South Africa, 2016). It is further estimated that around 8,5 million people in South Africa are directly or indirectly dependent on agriculture for employment and incomes (Statistics South Africa, 2014). Livestock farming is the largest agricultural sector in South Africa, with approximately 80 % of agricultural land in South

Africa demarcated as suitable mainly for extensive livestock farming (Department of Agriculture Forestry and Fisheries, 2017). Between them the Eastern Cape and Northern Cape provinces have over 55 % of all large-scale sheep farming agricultural households (Statistics South Africa, 2016).

Though agriculture contributed 2,4 % to the GDP of the South African economy in 2017 (Statistics and Economic Analysis Directorate, 2018), this sector has been facing major environmental constraints which have had an impact on production levels and its contribution to a green economy (Musvoto *et al.*, 2014). Key environmental challenges facing the agricultural sector in South Africa include low and unpredictable seasonal rainfall, droughts, high mean annual temperatures and high evaporation rates which have severe implications on water supplies for agricultural use. Furthermore, land degradation, which is attributed to the interaction of socioeconomic, biophysical and climatic factors as well as poor management practices by farmers, is diminishing the productive capacity of the land (Gomiero, 2016). The livestock sector also contributes to global environmental challenges: for example, livestock is responsible for 14,5 % of total anthropogenic greenhouse gas emissions (methane and nitrous oxide) globally; these emissions are having a significant influence on global climate, as well as on air quality, soil quality, water quality and general biodiversity (Grossi, Goglio, Vitali & Williams, 2019; Tullo, Finzi & Guarino, 2019).

In the South African context, although the importance of the agricultural sector for the national economy and local economies in rural districts such as the Ubuntu Local Municipality is well documented, there remain contentious issues around its social contribution, especially with regards to the treatment of farm workers. Although post-apartheid South Africa has made a commitment to the attainment of decent work, mainly through promulgating labour legislation and adopting economic strategies in the form of the National Growth Plan (NGP) and the National Development Plan (NDP), farm workers and domestic workers remain two particularly vulnerable groups in the South African labour market (Bhorat, Kanbur & Mayet, 2011; Lemke & van Rensburg, 2014). The very weak social and economic position of farm workers is an outcome of the history of colonialism, segregation and apartheid already alluded to, exacerbated by their continued political and economic marginalisation since the transition to democracy in 1994 (Atkinson, 2007; Botes, Van Westhuizen & Alpaslan, 2014). Although, as noted in Chapter 1, the focus of this study is not on farm workers directly, social justice for this group is recognised as an essential requirement if the agricultural sector is to become fully sustainable.

Over a decade ago Langholz & Kerley (2006: 2) argued that South Africa's future "hinged on developing land use options that are 'socially just, economically viable and ecologically appropriate'". More recently Vetter (2013) has argued that agriculture is not sufficient on its own as a driver of rural development and poverty alleviation and there is, therefore, a requirement for a broad, integrated but multi-sectoral development plan that focuses on diversified livelihood options in rural areas. Farmers within the Ubuntu Local Municipality also pointed out during my interviews with them that although livestock farming has been the mainstay of the economy in the Karoo for decades, increased economic and environmental pressures are pushing farmers to diversify their farming businesses into game farming. Against this background it becomes important to understand whether game farming can not only support sustainable livelihoods for farmers but also address issues of social inclusivity and equity, while respecting the environmental limitations of this agro-region.

2.3 Biodiversity and its conservation

Current and predicted future pressures on ecosystems globally have increased concerns about the functioning of the human/environment nexus and the implications for society of the loss of biodiversity. As discussed above, the understanding of sustainable development put forward by Holden *et al.* (2016) emphasises the importance of respecting planetary boundaries, those thresholds which set environmental limits to human activity that, if crossed, threaten the entire functioning of the global ecosystem (Jaramillo & Destouni, 2015). Biodiversity is a critically important component of a functioning ecosystem, hence the importance of understanding what it means and its significance for sustainable agriculture and sustainable development.

2.3.1 The importance of biodiversity conservation

According to Article 2 of the Convention on Biological Diversity, biodiversity can be defined as follows:

The variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems (Secretariat of the Convention on Biological Diversity, 2005: xv).

Biodiversity on earth is facing an unprecedented crisis as the adverse effects of human activities on the biophysical environment mount as a result of, inter alia, global warming, population pressure, ocean acidification, deforestation, ozone depletion and genetic modification of especially plants (Edet, Samuel & Etim, 2014; Driver, Sink, Nel, Holness, van Niekerk, *et al.*, 2015; Chmielewski, Kusztal & Zeber-Dzikowska, 2018). In 2018 more than 26,000 of the world's species were recorded as threatened in the IUCN's *Red List of Threatened Species* (IUCN, 2018).³ The recognition that humankind has fundamentally altered atmospheric, biological, geological, hydrological and other earth systems has given currency to the concept of the Anthropocene which "refers to the present, when human impact on Earth's surface, atmosphere, and hydrosphere has been deemed to be global" (Finney & Edwards, 2016: 6; see also Olsson, Moore, Westley & McCarthy, 2017).

There is thus an urgent need to ensure the conservation of biodiversity, given its central role in ecological systems and the sustenance of humans. Apart from the cultural and aesthetic values ascribed to biodiversity, biodiversity offers humans essential ecological services and benefits that include "provisioning, food, fibre, water; regulating, climate, water quality; supporting, soil formation, nutrient cycling" (Smith, Ashmore, Black, Burgess, Evans, *et al.*, 2013: 813). The loss of diversity and genetic pools as a direct result of human activities may result in limited options for agriculture (Hooper, Chapin, Ewell, Hector, Inchausti, *et al.*, 2005). There is, however, a global consensus amongst conservationists that there is no single blueprint for how best to halt the loss of biological diversity around the world (Beumer & Martens, 2013). In this context Darkoh (2003: 275), among others, insists that biodiversity conservation must be extended to include "all elements of the landscape and all ecosystems".

The recognition that protected areas alone cannot secure the targets needed for biodiversity conservation has led to the development of various initiatives that include, in the southern African context, Community Based Natural Resource Management and Biodiversity Stewardship Programs (Barendse, Roux, Currie, Wilson & Fabricius, 2016). There is also a growing consensus that the private sector must be included in the management of biodiversity conservation to achieve holistic conservation goals worldwide. This becomes an important issue to consider in an assessment of the significance of the wildlife sector and the contribution

³ The IUCN Red List of Threatened Species is an inventory of conservation status of plant and animal species created through the "evaluation of the extinction risk of species in all regions of the world" (see, <https://www.iucn.org/ur/node/24442>).

of game farming to conservation in South Africa. As noted by a report by the World Wide Fund for Nature (WWF-SA, 2015: 2):

the majority ‘of South Africa’s land lies in the hands of commercial farmers [...]’, this highlights the importance of combining biodiversity conservation and sustainable development with privately owned land in South Africa.

These issues are further explored in Chapter 4 of this thesis, which explores the game farming sector in South Africa.

2.3.2 Biodiversity conservation in South Africa

South Africa’s varied topography and climatic conditions have given rise to nine broad vegetation zones called biomes (Mucina, Rutherford, Palmer, Milton, Scott, *et al.*, 2006). Biomes are large areas that are differentiated on the basis of factors such as plant structures (trees, shrubs, and grasses), leaf types (broadleaf and needle leaf), plant spacing (forest, woodland, savanna), animals that have habitats in these spaces, and climate (Rutherford, Mucina & Powrie, 2006; Khavhagali, 2010). The nine biomes that are recognised in South Africa are the Fynbos, Succulent Karoo, Nama Karoo, Desert, Grassland, Savanna, Albany Thicket, Indian Ocean Coastal Belt and Forest biomes. South Africa is ranked the third most biologically diverse country on Earth and one of 12 ‘megadiverse’ countries “which collectively contain more than two-thirds of global biodiversity” (Endangered Wildlife Trust, n.d.). Myers, Mittermeier, Mittermeier, Fonseca & Kent, (2000) identified 25 diversity hotspots in the world containing the remaining habitats of 133,149 plant species (44 % of all plant species) and 9,645 vertebrate species (35 %). South Africa contains three of these biologically rich but threatened hot spots, namely the Maputaland-Pondoland-Albany hotspot, the Cape Floristic Region and the Succulent Karoo.

According to the Department of Environment and Nature Conservation, “in terms of both area and absolute numbers, South Africa has the highest concentration of threatened plant taxa in the world”.⁴ According to Pool-Stanvliet, Duffell-Canham, Pence & Smart (2017) of the 4,149 plant taxa assessed in South Africa, 3,435 are considered threatened with extinction, most of them found within the Cape Floristic Region, particularly in the rapidly urbanising areas of Cape Town. The South African Red Data Books shows that 102 bird species (14 % of the

⁴See document at:

https://www.environment.gov.za/sites/default/files/docs/10yearsreview_biodiversity_conservation.pdf

country's total), 72 reptiles' species (24 %), 52 species of mammals (17,6 %), 17 amphibian species (18 %) and 142 species of butterflies (22 %) are threatened.

To curb the loss of biodiversity within the country, the South African government has created a policy and legislative framework for biodiversity which includes the 'White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity' (1997), National Environmental Management Act (Act 107 of 1998), National Environmental Management: Protected Areas Act (Act 57 of 2003), National Environmental Management: Biodiversity Act (Act 10 of 2004), National Biodiversity Strategy and Action Plan (2005) and the 'National Protected Area Expansion Strategy' (2008). Today an estimated 13 % of South Africa's land surface is currently under conservation management, which figure includes conservancies, private game reserves/farms and mixed game/livestock farms (Department of Environmental Affairs, 2015). Although the contribution of the private sector to biodiversity conservation in South Africa is still questioned, the Endangered Wildlife Trust maintains that the country "boasts some conservation success stories" as a result of cooperation between conservationists and the private sector. They give as examples the way in which the Bontebok was saved "from the brink of extinction" by some landowners around Bredasdorp in the Western Cape and the fact that the Cape Mountain Zebra and South African populations of African lion are today listed as species of "least concern", largely because of their "resurgence" in privately owned conservation areas.⁵

The troubled history of conservation in South Africa

According to Hunt (2005), the roots of environmentalism in South Africa can be traced back to the late 19th century when the first conservation organisations were established, including the Natal Game Protection Association (1883), the Mountain Club (1896) and the Western Districts Game Protection Association (1886). These organisations catered for members of the white elite; their conservation motives were mostly self-centred and organised around racial and class biases that tended to ignore the interests of black people (Khan, 2000; Beinart, 2003). Carruthers (1988) draws attention to the link between power and white privilege on the one hand and the game protectionist movement on the other in her account of the history of game

⁵ See EWT red list at <https://www.ewt.org.za/Reddata/reddata.html> accessed 17/04/18

protection in the Transvaal, which shows how white hunters eliminated competition from black hunters by claiming that blacks were responsible for excessive game killing.

It is within the late 19th century that the foundations of protected natural areas were laid that would later develop into national parks and provincial game and nature reserves in the 20th century (Khan, 2000). The first game reserve in Africa was in the Knysna and Tsitsikamma forests in 1886. However, the creation of these parks was often characterised by the forcible removal of indigenous communities to new areas or the total loss of access to land. Critical to the debates framing game farming today, the paradigm of conservation that was developed in this time centred on what have been described as ‘preservationist’ or ‘fortress conservation’ approaches, in which reserves are fenced off, thereby depriving local communities of their land rights and also closing off access to the resources inside the reserves (Jones & Murphree, 2004; Brockington, Duffy & Igoe, 2008). Thus, conflict over land is not only a central thread in the general history of South Africa but is also inextricably linked to the history of conservation. Understanding this history is, in turn, necessary to comprehend the present perceptions, debates, and emotions around the switch to game farming by (white) commercial farmers.

Given the historical association of biodiversity conservation with racial injustices, the conservation imperative remains a challenge in South Africa. A past involving “authoritarian tactics against blacks, including forced removals, resource use restrictions, penalties, imprisonment and sometimes killings, all in the name of conservation” has engendered negative perceptions around conservation for many South Africans (Kepe, 2009: 872). The large expansion in ‘preservationist’ conservation parks throughout the 20th century and the forced relocation of many black communities into homelands and coloured reserves has resulted in numerous, generally highly conflictual land claims on protected areas in democratic South Africa. The land question in South Africa thus haunts the game farming industry, a theme that is explored further in chapters 4 and 5.

Biodiversity in the Nama Karoo Biome

The Nama Karoo is characterised by low, unpredictable rainfall and episodic droughts which impact on its vegetation dynamics. It is less rich in terms of biodiversity than the neighbouring Succulent Karoo biome, having relatively few succulents, low plant diversity and few endemics (Henschel *et al.*, 2018). Only 0,7 % of land in the Nama Karoo biome is statutorily conserved, through the Karoo National Park, the Augrabies National Park and part of the Mountain Zebra

National Park (Mucina *et al.*, 2006). However, to this figure must now be added the core site around the Square Kilometre Array west of Carnarvon, which totals approximately 130,000 ha. and has been earmarked as a ‘special nature reserve’ in terms of South Africa’s Protected Areas Act (Walker, 2019a).

Historically the Nama Karoo was a migration route for numerous species, including springbok, blesbok, quagga, wildebeest and eland (Lovegrove, 1993). However, uncontrolled hunting in the 18th and 19th centuries, the advent of settled agriculture and a rinderpest outbreak at the end of the 19th century destroyed not simply the migratory patterns of these animals but led to the decimation of many fauna species (Hogan, 2015). While there has been a selective return of some of these animals through the breeding sector of the game farming industry (see Chapter 4), some species, like the quagga, were hunted to extinction (see Chapter 5).

One of the major large-scale disturbances in the Nama Karoo ecosystem, according to scholars like O’Connor & Roux (1995), Hoffman & Todd (2000), and Mucina *et al.* (2006), has been grazing: firstly from migrating ungulates and then from fenced livestock (primarily sheep and goats but also cattle and other domestic animals). Heavy grazing has severely degraded some parts of the region resulting in soil erosion and the progression of desertification (Jordaan, Sakulski & Jordaan, 2013; Hoffman, Walker & Henschel, 2018). Holness, Driver, Todd, Snaddon, Hamer, *et al.* (2016) maintain that arid systems are unpredictable and can switch from one state to another in response to climatic or biotic events and this has important implications for the flora and fauna in the Karoo. According to Milton & Dean (2015: 128):

Passive recovery of vegetation following overgrazing, ploughing, invasive vegetation clearing and other forms of land degradation, fails to take place within human life-spans because of demographic inertia, rare recruitment events, loss of seed banks or changes in the biophysical environment (shade, soil surface roughness, infiltration rate).

In addition to overgrazing, the Department of Environmental Affairs (2014) has identified invasive species as one of the “key threats” to biodiversity in the region. Invasive species like *Prosopis*, *Atriplex* and *Opuntia* threaten water security and quality as well as the productive potential of agricultural land. Other threats identified by farmers in the Ubuntu Local Municipality include mining, in particular the likelihood of prospecting for shale gas and uranium mining in their district (Walker, Milton, O’Connor, Maguire & Dean, 2018b). Farmers in the municipality expressed their fears about these potential developments as they pose a

threat to one of the crucial resources in farming – water. As pointed out by Henschel *et al.* (2018: 152), these developments are not only a threat to the integrity of the Karoo ecosystem in general but pose a particular challenge to livestock farming.

The riverine rabbit is the most vulnerable animal species in the Nama Karoo (see Figure 2.1 below) and as such is a major focus of concern for the Endangered Wildlife Trust's Drylands Conservation Programme agenda. As a 'keystone' conservation species in the riparian shrublands of the Karoo, its presence is regarded as an indicator of the overall health of the ecosystem (Schumann, Matthew & Theron, 2016). The declining numbers of the riverine rabbit have been attributed to ongoing habitat loss from fragmentation of the landscape due to factors like fences, agricultural development, overgrazing and unsustainable water use (Collins, Bragg, Birss & Child, 2016). Today it is found mostly on private land; since the early 2000s there have been efforts to conserve this species and its habitat in Loxton and Victoria West within the Ubuntu Local Municipality.

As shall be discussed in more depth in chapters 7 and 8, commercial farmers within the Ubuntu Local Municipality acknowledge that the combination of economic and environmental pressures described above is making them more aware of the environment in and from which they derive their livelihoods. Farmers indicated that use of local ecological knowledge has been central in devising management and ecological practises that in their eyes are more sustainable and hence more attuned to safeguarding the environment and their investment in it.

Figure 2.1: Riverine Rabbit (Bunolagus monticularis)



2.4 Land reform and social and economic justice

2.4.1 Overview of land reform in South Africa

The ‘land question’ in South Africa is widely regarded as a critical challenge facing the country (see, *inter alia*, Hendricks, Ntsebeza & Helliker, 2013; Aliber, 2015; Beinart & Delius, 2015; Walker & Cousins, 2015 and Hall & Kepe, 2017). More than two decades after the country’s transition to a democratic dispensation under a black-led government there is broad consensus that a redistributive land reform programme is needed to redress centuries of dispossession, but much less agreement on the scope and nature of such a programme as well as the speed at which it needs to be effected (Presidential Advisory Panel on Land Reform and Agriculture, 2019). There is also disagreement on how to assess the achievements of the land reform programme to date, in terms of the number of beneficiaries and extent of land that has been redistributed, the appropriate mechanisms for acquiring land – in particular whether expropriation of current landowners without compensation is appropriate and/or constitutional – and the contribution land reform has made to the economic upliftment of its intended beneficiaries and national development more broadly.

The purpose of this section is not to review all these debates but to provide a brief overview of the main elements of the land reform programme, because of its centrality in current political, policy and academic debates on social and economic justice in the countryside, hence its importance for unpacking what sustainable development and, more specifically, sustainable agriculture must involve. A more focussed assessment of land reform in the context of the Northern Cape and game farming in Ubuntu Local Municipality is provided in chapters 5 – 8.

In its 1997 *White Paper on Land Policy* South Africa’s Department of Land Affairs described the country’s land reform programme as having the following “principle components”:

- Land restitution, in terms of the Restitution of Land Rights Act of 1994, as amended, which involves restoring land (or otherwise compensating legitimate claimants) which black South Africans lost after 19 June 1913 (the date when the Natives Land Act was promulgated) as a result of past racially discriminatory laws; (of note for this study is that the 1913 cut-off date effectively excluded much of the Karoo, because the history of land dispossession under colonialism within the then Cape Colony largely preceded that date);
- Land redistribution, embracing a range of sub-programmes intended to address the pattern of racially skewed land ownership by making especially agricultural land more accessible

to previously disadvantaged (i.e. black) citizens, including the rural and urban poor, labour tenants, farm workers and new entrants to the commercial agricultural sector;

- Land tenure reform, to “devise secure forms of land tenure, help resolve tenure disputes and provide alternatives for people who are displaced in the process” (Department of Land Affairs, 1997: 7), with a particular focus on farm workers and people living on state-owned communal land in the former Bantustans.

The post-1994 land reform programme was implemented with a view to redressing the marked racialised inequalities in land ownership that were the legacy of colonial dispossession and systematic policies of forced removals targeting black communities in apartheid South Africa (Platzky & Walker, 1985). As has already been made clear, this history still shapes the nature of farming today – democratic South Africa inherited a highly skewed and dualistic agricultural sector that involved the “relentless depression of the profitability of black small-scale agriculture and consistent subsidisation of white large-scale commercial agriculture” (Yeld, 1997: 21). The development of commercial agriculture was tethered to the institutionalisation of private property rights in the countryside, in which, as my account of the history of this process in the Karoo in Chapter 5 makes clear, whites became the recognised farmers and landowners and blacks the providers of cheap labour on their farms.

Walker (2005) addresses the embedded narrative of social and economic injustice in the ‘land question’ and its continued salience in contemporary South Africa:

For most South Africans, the ‘land question’ is a descriptive phrase rather than a theoretical construct, with two major elements. The first is the history of colonial conquest and apartheid dispossession, whereby white settlers appropriated 87 per cent of the land for themselves and reserved a mere 13 per cent for the subjugated black majority. During the apartheid era, this involved the forced relocation of more than 3.5 million people, which intensified deep social dislocation, displaced urbanisation, and a radically dysfunctional spatial dispensation. Inextricably linked to this history of dispossession is the second aspect of the land question – that of the well-documented decline of black peasant agriculture over the past 100 years or more and the impoverishment of those tied to the remnants of land set aside for black occupation” (Walker, 2005: 807).

Land restitution

Initial government targets were to settle all restitution claims by 2005 but this date was constantly pushed back as the process proved far more difficult to implement speedily than originally anticipated. By 1999 only 41 of the approximately 60,000 claims then reported as lodged had been settled; by 2009 the government reported that the land restitution programme had resolved 75,787 claims, the majority being urban claims which had been resolved through cash pay-outs (Ramutsindela, Davis & Sinthumele, 2016: 38). Subsequent claim audits boosted the final tally of lodged claims close to 80,000 claims (79,602) by 2013, of which 87 % (69,119) were for urban land rights lost and 13 % for rural land, the latter, however, including many large community claims (Walker, 2015). In 2014, under President Zuma, the Restitution of Land Rights Act was amended to reopen the opportunity to lodge land claims for a further five year period, leading to many thousands of new claims being added to the tally (Walker, 2015). Further adding to the programme's difficulties, in 2016 the Restitution of Land Rights Amendment Act 15 of 2014 was struck down by the Constitutional Court, to make way for a revised amendment bill that would ensure that claims lodged in the first round would not be compromised by claims lodged from 2014.

As of the middle of 2019, some 3,5 million ha. of land had reportedly been transferred under the restitution programme and R14 billion paid out in financial compensation (Presidential Advisory Panel on Land Reform and Agriculture, 2019: 124). Although some progress has thus been made to address historical dispossession through the restitution programme, the fact that most claim settlements have involved the payment of financial compensations rather than land restoration is viewed by many critics as a major failure of the restitution programme (Cousins *et al.*, 2014). Walker, however, has argued that payment of financial compensation is not necessarily indicative of failure; she has also cautioned that “the political emphasis on numbers detracts from the resource-heavy and time-consuming attention required of the state” to settle claims effectively and address the after-care issues required for successful settlements (Walker, 2008c: 23). This concern has been borne out by the many reports of the under-utilisation of restored land, the complete collapse of agricultural production on some restituted farms and concerns that beneficiaries have, in many cases seen, little or no improvements to their livelihoods from their land (Xaba & Roodt, 2016).

Land redistribution

The land reform programme that emerged from the early 1990s was an attempt to combine the goals of social justice with the principles of market-led land reform, in which land was to be acquired from white landowners by the state on a willing-buyer-willing-seller basis. Since the mid-1990s several different redistribution models have been introduced, including the Settlement/Land Acquisition Grant (SLAG) programme which targeted groups of poor rural households (see Aliber, 2003), the Land Redistribution for Agricultural Development (LRAD) programme, which differed from SLAG inasmuch as its primary focus was on aspiring commercial farmers (Jacobs, Lahiff & Hall, 2003; Hall, 2004; Anseeuw & Mathebula, 2008), and the Proactive Land Acquisition Strategy (PLAS) in 2006, in which the state acquired land to lease, rather than transfer fully, to beneficiaries. Each of these programmes has had their problems; none have succeeded in redistributing land at scale nor making a clearly visible dent in rural poverty. According to Beinart (2018), as of 2017 the state claimed to have redistributed a total of some 8 million hectares, suggesting that, once restituted and former Bantustan land was included, “it is likely that black South Africans occupy 25-30 million ha out of a total area of about 93 million ha available for agriculture”. Cousins (2018), however, has cautioned about the “vast discrepancies” between official and actual land records for rural and urban black landowners. Little is also known about the amount of agricultural land purchased privately purchased by black farmers.

One important yet undervalued sub-programme of the land redistribution programme that has been particularly significant in the Northern Cape is the municipal commonage programme, under which land owned by and generally adjacent to local municipalities has been made available to black small-scale and emerging farmers to use, thereby supplementing the livelihoods of poor residents of small country towns (Atkinson, 2007a). (See Chapter 5 for further discussion.) Commonage land became a focus of land redistribution in the mid-1990s when the then Department of Land Affairs (DLA) undertook to “encourage local authorities to develop the conditions that will enable poor residents to access existing commonage, currently used for other purposes” and to provide funds “to enable resource-poor municipalities to acquire additional land for this purpose” (Department of Land Affairs, 1997: 73).

Tenure reform

The tenure reform programme of most relevance in the Karoo region of the Northern Cape (where neither labour tenancy nor Bantustan territories were found before 1994) was that

designed to secure the tenure rights of those who live on a particular piece of land formally owned by others, without recognition of their rights, including farm workers and their families and sharecroppers, as well as labour tenants. The Labour Tenants Act of 1996 and the Extension of Security of Tenure Act (ESTA) of 1997 aimed at upgrading informal rights, as well as putting in place restrictions and legal procedures to regulate the removal of informal rightsholders from their land and put an end to illegal evictions, especially of farm workers on commercial farms (DLA, 1997). However, although ESTA makes it more difficult to evict occupiers, evictions within the law are possible, while illegal evictions remain common (Rugege, 2004; Lahiff & Li, 2012). According to Wegerif, Russell & Grundling (2005), between 1994 and 2003 approximately 940,000 people were evicted off farms nationally, out of a total of 2,5 million people who moved for a variety of reasons. However, of note is that farm evictions predate 1994:

Between 1985 and 1995 there were more than three-quarters of a million people evicted or displaced from farms throughout South Africa. [...] farm evictions spiked in 1992 (179,575 people evicted) linked to severe drought and associated layoffs on farms, and again in 1994 (122,626 people evicted) [...] (Wegerif, Russell & Grundling, 2005: 45).

The debate on expropriation without compensation

The government of South Africa, as set out in the Constitution of South Africa (Act 108 of 1996), has an obligation to take steps to ensure that all South African citizens have access to land on an equitable basis. As set out in the Constitution (Sections 25(5), (6), (7), (8) and (9)), the government is obliged to adopt legislation and other reasonable measures to achieve land, water and related reform to redress the results of past racialised discrimination (Constitution of the Republic of South Africa, Act, 108 of 1996). The ‘Property Clause’ in the Bill of Rights also provides that property may be expropriated for a “public purpose”, including land reform; where land is acquired for this purpose it is “subject to compensation” which must be “just and equitable”, in the determination of which a number of considerations must be taken into account, including the history of the property, its current use, and its market value (Act 108, clause 25(2), (3), (4)).

Since 1994 the South African government has interpreted this clause within a ‘willing seller-willing buyer’ policy approach. However, because of the slow pace of land redistribution discussed above, the expropriation of land without compensation has emerged in political

debates as a more appropriate mechanism for speeding up land reform and redressing past injustices. The issue first gained prominence around 2010, following calls by politician Julius Malema to nationalise mines and expropriate land without compensation (Zulu, 2015). Amidst intense politicking the principle of expropriation without compensation was adopted by the ANC at its 54th conference in December 2017 and subsequently endorsed by President Ramaphosa in 2018; however, he also qualified the principle by stating that ‘expropriation without compensation’ would be implemented in a way that increases agricultural production, improves food security and ensures that “the land is returned to those from whom it was taken under colonialism and apartheid”.⁶

After much speculation on what this would entail, Ramaphosa appointed an Expert Advisory Panel on Land Reform and Agriculture on 18 September 2018 to consider the conditions for expropriation without compensation. This Panel’s Report in 2019 described the framing of Section 25 of the Constitution as “compensation-centric” and made recommendations on an amendment that would clarify under what circumstances expropriation without compensation might occur, as well as “guidance on the possible ways in which Section 25 may be amended in order to make provision for zero compensation in certain instances” (Presidential Advisory Panel on Land Reform and Agriculture, 2019: vi). The Panel also made recommendations for a “proactive and targeted” commodity and area-based approach to land reform, informed by agro-ecological and land use analysis, and proposed the development of a Land Donation Policy whereby individual landowners could donate land to identified beneficiaries as a contribution to land reform. The Panel thus recognised one of the central concerns of my study, that land and agrarian reform must respect the environmental constraints of the country’s different agro-ecological zones. The panel’s recommendation of a land donation policy was also suggested by a number of the commercial farmers I interviewed in the Ubuntu Local Municipality, as a step towards a more equitable distribution of land.

The intensity and uncertainty surrounding the public debate on expropriation without compensation was generating a strong sense of unease amongst commercial farmers in my research site during my fieldwork, with most expressing fears around the potential for violent expropriation of land from farmers similar to what happened in Zimbabwe. However, a few expressed confidence in the South African Constitution and that the rule of law would prevail.

⁶ See full SONA at <https://www.thesouthafrican.com/sona2018-read-the-full-text-of-cyril-ramaphosas-address-here/> accessed 18/02/18

2.4.2 Emerging farmers and land reform

The land question in South Africa is entangled with debates on how best to advance black farmers. The divide between large-scale, mostly white farmers with access to modern technology on the one hand and a subsistence-oriented sector of black farmers in the homelands on the other has prompted state efforts to incorporate previously disadvantaged farmers into mainstream agricultural activities (Bitzer & Bijman, 2014: 168). According to Okunlola, Ngubane, Cousins & du Toit (2016: 4-5), in 2007 smallholder agriculture in South Africa involved some 2–2,5 million black households, almost all in the former Bantustans; however, these households contributed very little to rural livelihoods and the economy as a whole (Senyolo, 2007; Okunlola *et al.*, 2016).

In 1994 the Broadening of Access to Agriculture Thrust (BATAT) was conceived by the Department of Agriculture, with the intention of addressing white dominance in agriculture by identifying the development priorities of existing and new black farmers and developing strategies to support them (Vink, van Rooyen, Karaan & Rooyen, 1998). The central weakness of BATAT, however, was that it was an initiative of the National Department of Agriculture, which did not have line-function responsibility for farmer support, given that the latter is a provincial responsibility. It was followed by the Comprehensive Agricultural Support Programme (CASP) in 2004/05, which was intended to provide support services to promote agricultural development among beneficiaries of land reform (DAFF, 2016). By 2016 a total of R750 million had been allocated to its projects, with mixed results in the different provinces (DAFF, 2016).

Chikazunga & Paradza (2012), amongst others, have argued that the systems of support for previously disadvantaged farmers that have been rolled out by the state do not recognise the very different motivations among farmers for wanting to farm, including for subsistence purposes, for cultural reasons or to become a full-scale commercial farmer. The deregulation of the agricultural sector has caused serious problems not only for commercial farmers but also for previously disadvantaged farmers (Senyolo, 2007; Zulu, 2015; Khapayi & Celliers, 2016). The challenges small-scale farmers face when trying to break into commercial farming are many, including limited access to market infrastructure (e.g. abattoirs, silos, etc.), lack of technical know-how, lack of finances, lack of risk management strategies and problems in gaining access to more land (Isaacs, 1996; Ntsebeza, Lungisile; Hall, 2007; Atkinson, 2013; Khapayi & Celliers, 2016). The visible neglect of small-scale farming in South Africa emerged

as a major theme in my study. As discussed in Chapter 8, small-scale farmers in the Ubuntu Local Municipality feel strongly that the government has ignored their plight.

2.5 Conclusion

This chapter has presented the conceptual framework that has guided this study and helped identify key issues that are central for answering my primary research questions as presented in Chapter 1 and for refining my understanding of what sustainable development means in the context of the Karoo. Political ecology has been important for my overall theorisation of the relationship between human society and the environment, for the insights it generates on the importance of power relations in shaping access to and utilisation of natural resources, and for its attention to changing economic, political and environmental conditions over time. The concepts of sustainable development and sustainable agriculture developed here rest on an understanding of sustainability in terms of the inter-dependence and non-negotiability of social, economic and environmental considerations, in which social justice and ecological constraints on economic activities are both acknowledged as imperatives.

Chapter 3: Research design and methodology

In this chapter I discuss my research design and the methods I have used for data gathering and analysis. I also address ethical considerations and my own positionality as a researcher. Naoum (1998) notes that the researcher's choice of research design is influenced by the purpose of the study, the underlying conceptual framing and the type and availability of the data required for the study. To research the perspectives and practices of farmers (both large- and small-scale) on game farming and its relationship to sustainable development, biodiversity conservation, and land reform in the Karoo, I have utilised a case-study research design, with farmers in the Ubuntu Local Municipality (operating at different scales) constituting my case. In operationalising this design, I have adopted a mixed-methods approach.

3.1 Case study research design

As described by Meyer (2001: 330), the particular strength of a case-study approach is that “it is tailor-made for exploring new processes or behaviours or ones that are little understood”. Yin (2006: 18) adds to this by defining a case-study research design as an “empirical inquiry that investigates a contemporary phenomenon within its real-life context” and is especially useful “when the boundaries between phenomenon and context are not clearly evident”. At the same time, case-study research is not without broader relevance for understanding social issues beyond the research site; as noted by Yin (2013), the intensive analysis of one case does allow for the making of generalisations which may be applicable to other cases of a similar type.

Concerns with new behaviours and context were significant considerations in my selection of a case-study research design. Although I needed to research the wildlife industry within South Africa more generally, so as to get a general overview of developments within and debates around the industry, I also needed to ensure I gave due weight to the distinctive features of the Northern Cape that need to be understood in an investigation of the switch – or shift – to game farming among commercial farmers in this region. Narrowing my study to the Ubuntu Local Municipality allowed me to conduct an in-depth and context-specific analysis of the different meanings and behaviours as they play out in individual farmers' decisions, in a way that would be very difficult to achieve in a broader, more aggregated study. As noted by Lewis (2003: 52),

a defining feature of case-study research is the window it opens on the “multiplicity of perspectives which are rooted in a specific context”. In the case of the Ubuntu Local Municipality, I did encounter a multiplicity of perspectives amongst farmers around the uptake of game farming, all informed by their different experiences and world views.

A case-study approach thus allowed me to explore not only why some commercial farmers within the municipality are switching to game farming and others are choosing to remain with livestock farming, but also to consider the reasons why small-scale farmers in the same district are reluctant to branch out from livestock production. Furthermore, a case-study design provides an empirical framework in which multiple sources of both quantitative and qualitative data can be productively employed (Yin, 2003). Unlike other forms of research, the case study design does not stipulate any method for data collection or data analysis but does lend itself to the use of mixed methods that yield “thick descriptions” of the phenomena under study (Merriam, 1998; Yin, 2003).

3.2 Mixed methods

Case-study research, as pointed out by Cavaye (1996: 227-228), can be conducted in different ways. It can adopt a “positivist or an interpretivist stance, can take a deductive or an inductive approach, can use qualitative and quantitative methods”. For my study I have utilised both qualitative and quantitative methods and thus adopted a mixed-methods approach. Mixed-methods research as defined by Creswell & Plano Clark (2007: 5) involves:

philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.

Qualitative research uses a “naturalistic approach seeking to understand phenomena in context-specific settings, such as real-world settings [where] the researcher does not attempt to manipulate the phenomenon of interest” (Patton, 2001: 39). As such, the value of qualitative research methods lies in its ability to collect data from a variety of sources that can be used to explore how participants, in this case farmers in the Ubuntu Municipality, construct reality. As noted, *inter alia*, by Gonzalo-Castr, Kellison, Boyd & Kopak (2010), qualitative data collection

can generate rich and detailed accounts of human experiences with regard to research participants' emotions, beliefs, behaviours, and perceptions. In my case one-on-one interviews and focus group discussions with farmers enabled me to observe them in their own surroundings and this facilitated an in-depth examination of issues that the individual informants found important as well as pertinent to our discussion. For example, in the course of my interviews with them, several farmers chose to take me on drives around their farms to point out different phenomena that they considered relevant.

At the same time, quantitative methods of data collection allowed me to create a more general profile of farmers within the Ubuntu Municipality that covered broader demographics, land ownership patterns and farm sizes. Creswell (2014) defines quantitative research as an approach in which the researcher asks specific and narrow questions that allow for the collection of quantifiable data from participants. Quantitative methods can also be used to gather some qualitative data – for example, my use of a survey in the Ubuntu Local Municipality enabled me to gather qualitative data from a larger set of informants than I was able to interview individually, by means of some open-ended questions.

Using Tashakkori & Teddlie's (2003) model of mixed typologies, this study followed a sequential mixed-method approach involving first, a survey of commercial farmers in the Ubuntu Local Municipality, followed by a period in which qualitative data was collected from both commercial and small-scale farmers and selected key informants. This sequential approach facilitated my qualitative research. For instance, through the survey I learned that game farmers in the Ubuntu Municipality mostly identified themselves as mixed farmers, because they still had some livestock on their farms; this finding allowed me to revise my interview schedules to reflect this choice of terminology and explore what the farmers themselves meant by the term.

3.3 Data collection methods

The data collection methods used in this study followed this sequence: I began with documentary review and analysis, which crossed into a review of relevant archival data, and then moved on to my primary fieldwork involving the survey, semi-structured interviews, focus group discussions and observation. My literature review was ongoing throughout my research.

3.3.1 Documentary review and analysis

Bowen (2009: 27) defines document analysis as “a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material’ in order to elicit meaning, gain understanding, and develop empirical knowledge”. Bowen (2009: 31) describes documents as a stable, “non-reactive source of data which can be read and reviewed multiple times and remain unchanged by the researcher’s influence or research process”. In addition to their being a stable source of data they can therefore also be regarded as a cost-effective source.

Data collection and analysis from documentary sources began as soon as my research project was first conceptualised and continued throughout the research process. It involved the critical analysis of the available literature on game farming, sustainable agriculture, sustainable development and the land question within South Africa. Primary documents included policy documents, government and industry reports, media reports and agricultural and wildlife publications. Documentary analysis enabled me to track the changes that have happened within the game industry over time and enabled me to corroborate my fieldwork findings against existing data sets found in academic journals and theses as well as in game farming publications such as *Wildlife Breeders* and *Wildlife Ranching* and other media, including the *Farmers Weekly Magazine*, the *Mail & Guardian* and *News 24*.

3.3.2 Archival sources

Though this study seeks to understand the shift to game farming in the present, I considered it important to understand the historical context within which contemporary relationships to land and livelihoods have been shaped in the area now falling under the Ubuntu Local Municipality. This has required studying both the history of game farming more generally and changes in the ecology and agrarian economy of the Karoo region of the Northern Cape over time (covered in Chapter 5). Archival material used included online historical websites such as South Africa History Online as well as historical records stored in the Department of Nature and Conservation in Kimberly, the Ubuntu Local Municipality offices, and the Victoria West Library and Museum. This material was supplemented by selected literature on the history of the Cape Colony. As argued by Jimerson (2008: 22), “the idea of archives as memory is more than a simple metaphor. The documents and artefacts they collect are important resources for extending the range of human communication over time and over distance”. Through the

historical evidence that I gathered from archival resources I gained an appreciation of the historical importance of the ecology of the Karoo in shaping contemporary agricultural practises as well as the contribution of agriculture to the economy of the Ubuntu Municipality.

3.3.3 Fieldwork data collection and analysis

As noted, my study has made use of a mixed-methods design. My methods of data collection comprised an initial survey of commercial farmers, followed by in-depth semi-structured interviews with both large-scale commercial and small-scale farmers and key informants as well as two focus group discussions with small-scale and ‘backyard’ farmers. These more formal methods of data collection were supplemented by ongoing observation of local dynamics during my fieldwork, which stretched over the course of approximately 16 months (from November 2016 to March 2018). Table 3.1 below summarises these activities.

Table 3. 1: Primary data collection methods (November 2016-March 2018)

Method	No. of Respondents
1. Survey of commercial farmers	57
2. Semi-structured interviews <ul style="list-style-type: none"> • Large-scale commercial farmers • Small-scale farmers 	25 23
3. Telephone interviews with non-local land reform beneficiaries	2
4. Focus Group Discussions <ul style="list-style-type: none"> • Small-scale farmers (Mardeck and commonage) in Victoria West • ‘Backyard’ farmers in Victoria West 	10 12
5. Semi-structured interviews with key informants <ul style="list-style-type: none"> • Department of Nature and Conservation • Local Farmers’ Associations in the Ubuntu Local Municipality • Wildlife Ranching South Africa (WRSA) • Ubuntu Local Municipality • Pixley ka Seme District Office • South African National Parks (SANPARK) • South African National Biodiversity Institute • Department of Rural Development and Land Reform (DRDLR) • Academics 	12

The background survey

I began my fieldwork with a scoping trip to Kimberley in November 2016, during which I made preliminary contact with some well-placed key informants and piloted my survey

instrument with five game farmers in the Dikgatlong Local Municipality. It is within this municipality that I got a chance to interview the pioneering game farmer in the Northern Cape. I followed this up by establishing contact with several key informants within the Ubuntu Local Municipality whom I asked to assist me in setting up my study.

I began my fieldwork proper in the Ubuntu Local Municipality in the same month, with a background survey of commercial farmers employing a random sampling technique (Appendix 1). This survey was designed to elicit background information on the demographics of the farming community in Ubuntu Municipality and to gain basic information on attitudes to game farming, sustainable agriculture and biodiversity conservation, which I could then probe through in-depth interviews with a smaller sample of respondents. The rationale for the survey was that because of the resource- and time-heavy nature of in-depth interviews, it would increase the reach of my research project as well as provide me with an entry-point into the farming community.

The survey proved to be a challenging exercise. The biggest challenge was how to distribute my questionnaire to a sufficiently representative sample of farmers in a context of very large and widely dispersed farms, in a large district (over 2 million hectares in area) with poor road infrastructure and no reliable postal service, where suspicion within the farming community about an unsolicited visit by a black stranger (myself, the researcher) was likely to be high.⁷ I thus decided to use a self-administered questionnaire that covered basic demographic information, the nature and scale of farming activities and land ownership patterns, and that included a few open-ended questions. To get around the disadvantage with self-administered questionnaires, that there is no one to help the respondent understand instructions or guide them in completing the questionnaire (de Jong (2016: 1), I relied on my pilot exercise in Kimberley which indicated to me that my instrument would communicate clearly with its intended recipients. To distribute the questionnaire, however, required thinking outside the box. Here I relied on the advice of a number of well-placed key informants in the municipality.

My key informants within the Ubuntu Municipality offices did not have a registry of commercial farmers in the area whom I could target. The DAFF extension officers working within the municipality estimated the number of commercial farmers in the municipality to be approximately 235, even though their records indicated that there were more than 235 farms in

⁷ I was familiar with the work of Mkhize (2012) in which she reflects on her positionality while carrying out research on game farming in the area around Cradock in the Eastern Cape. She found access to white farmer spaces difficult, as a young black woman, but not to farm workers living in the local township.

the area. The discrepancy between their estimate of the number of farmers and the number of farms was accounted for by the number of farmers in the municipality who own more than one farm – in the region of a quarter of all the farmers, they thought. To verify this information, I approached the chairperson of one of the farmers' associations in the area (key informant Jacob), who estimated that there were at least 60 commercial farmers around each of the three major towns of the Ubuntu municipality, thus bringing the total number of commercial farmers in my district to approximately 200, once the small settlements of Hutchinson and Merriman were factored in.

Once I had established that the number of farmers in the area was somewhere between 200 and 235, I devised the following method to distribute my questionnaires. To ensure that there was no bias towards the farmers associated with one or more of the towns I asked key people in each centre to distribute and collect the questionnaires for me. These people included the chairpersons of various associations, respected members of the community, the owner of the most popular bed-and-breakfast establishment in the area, a church minister and till operators at the *Karoo Vleisboere Kooperasie* shop that sells agricultural implements to farmers in the surrounding area. My target was to get at least a quarter of my estimated number of commercial farmers in the district to respond, i.e. to receive between 50 and 60 returned questionnaires, although I was warned not to get my hopes up: "Farmers will just look through the questionnaire, but I promise you, only a few who are actually interested in your study will respond. You will be very lucky if at least 30 farmers respond" (key informant Jacob, interview, 2017).

In recognition of the fact that there is generally a lower response rate for self-administered surveys than interviewer-administered questionnaires (Mathers, Fox & Hunn, 2007), I printed 120 questionnaires which were distributed via the outlets described above as follows: (a) Victoria West area: 30 questionnaires; (b) Richmond area: 30 questionnaires (c) Loxton area: 30 questionnaires; (d) Hutchinson area: 15 questionnaires and (e) Merriman area: 15 questionnaires.

In the end, a total of 57 completed questionnaires were returned to me which corresponded very well with my initial target. However, though questionnaires were distributed in all the towns within the Ubuntu Local Municipality. I could not ascertain the spatial distribution of returns because of the methodology used to collect them. Farmers were asked to drop of the

questionnaires at various points (local churches, a local bed and breakfast where I stayed during my field study, the local farmers' shop and with key contacts in the municipality).

Semi-structured interviews with commercial farmers, small-scale farmers and key informants

In identifying potential respondents, I utilised a purposive snowballing technique. As an outsider to the community in the Ubuntu Municipality, snowballing helped me penetrate the community with relatively little difficulty. My key informants were very helpful in introducing me to commercial farmers in the community; for the most part, they were influential and respected figures, which gave other commercial farmers confidence in agreeing to be interviewed by me. After an interview with one farmer, I would ask him to refer me to another farmer in the community. Only one of the farmers whom I interviewed was reluctant to help in this way. The others were all willing to assist, which they did by calling their contacts straight away, to introduce me and describe my purpose in requesting an interview with them. After that, they would give me the phone number of the farmer so I could arrange a meeting time and other details of the interview myself. Thus, by the time I got to talk to these farmers they were already expecting me. This pre-empted the possibility of any fears or suspicions that might have hindered my access to their farms. My fear that my inability to converse in Afrikaans would result in many refusals did not happen. Of all the potential interviews I could have had, only two turned me down because of language.

Access to small-scale farmers was established through the Ubuntu Local Municipality offices. The Municipality has a list of all the farmers on the Victoria West commonage land which was made available to me upon request. To arrange meetings, I called individual farmers on the list to schedule a meeting time at a location of their choice. Accessing small-scale farmers was easier than with commercial farmers because they all stayed in the township on the edge of Victoria West, the town where I stayed for the duration of my fieldwork. After my first interview with a small-scale farmer, it was easy to contact other farmers as they all know and live near each other. This also made arranging my focus group discussions with small-scale farmers very easy. It was during these focus group discussions that the issue of backyard farming first came to light.

As pointed out by Mack, Woodson, Macqueen, Guest & Namey (2005: 4) in interviews which make use of open-ended questions, "participants are free to respond in their own words, and these responses tend to be more complex than simply yes or no". Using a semi-structured

interviewing strategy allowed me flexibility in navigating the different questions on my interview guide, which had both open- and closed-ended questions (see Appendix 2-5). This also made it possible to incorporate new questions as new topics arose during the interview. These interviews were very informal and allowed for free and open interaction between myself and my respondents, which helped create good rapport and trust. Inasmuch as I was interested in my research participants, they also exhibited curiosity and interest in not only my study but my own story. While I was happy to share some personal details with them, as the researcher I also needed to steer the conversation ‘back on course’ if I felt the respondent was getting too personal or moving away from the subject at hand, while striving to maintain a high degree of politeness and understanding.

Interviews were audio-recorded with the permission of respondents. During interviews with farmers, I predominantly used English with the commercial farmers and Xhosa with the small-scale farmers. While my command of Afrikaans is very basic, my command of Xhosa is very good. Going into the field I thought my lack of Afrikaans would be a handicap during the interview process and considered using a local translator from the start. However, the commercial farmers I interviewed were more than willing to accommodate me and converse in English. There were some instances when individual farmers wanted to share some Afrikaans proverb or witty saying with me which they could not fully express in English; in these cases, an English-proficient family member helped convey the essence of the message accurately or I translated the recorded Afrikaans later, during the transcribing process, with the help of an Afrikaans-speaking friend.

Interviews with small-scale farmers were conducted in a mix of English, Xhosa, Zulu, and Afrikaans. In the case of my interviews with Afrikaans-speaking small-scale farmers, I drew on the informal services of a local translator whom I will refer to as Themba. Themba was referred to me by a contact in the Ubuntu Municipality as a reliable and diligent person who is well known in the community and works closely with small-scale farmers in Victoria West. I first contacted him during my scoping visit in 2016, at which point I explained to him what my research was all about. In March 2017, at the start of my fieldwork with the small-scale farmers, I had a training session with Themba about his potential role as translator. I familiarised him with my interview and focus group schedules (see Appendix 5) as well as with research ethics and advised him on how and when he should step in as a translator. As it turned out, Themba’s role proved to be minor in my research process, as for the most part I was able to communicate

effectively with participants myself; however, his help was useful on a few occasions with Afrikaans-speaking participants.

My interviews with respondents varied between one and two hours, depending on how much the respondent was sharing and/or how many disturbances occurred during the interview. Disturbances included phone calls, someone dropping in, or a spouse or other family member joining the interview. Interviews with the commercial farmers were time-consuming to set up, because of the distances between individual farms and fitting in with farmers' busy schedules. Interviews with small-scale farmers were generally much easier to schedule because they all stay in Victoria West town and once they were aware of the purpose of my visit, they were eager to participate.

Telephone interviews with land reform beneficiaries

In addition to the face-to-face interviews described above I also scheduled telephone interviews with two land reform beneficiaries within the game farming industry who were not resident in the Ubuntu Local Municipality. These were arranged through the Department of Nature and Conservation in Kimberly. I considered these two interviews important for exploring the opportunities and challenges that new entrants into the industry face. I used telephone interviews because the informants were unavailable for full interviews during my field visits to Kimberly and this was a cost-effective alternative (Farooq, 2015).

Some scholars like Shuy (2003) have argued that telephone interviews can impact negatively on the communication process, because of a loss of rapport between researcher and research participants and increased likelihood of misunderstandings and confusion; furthermore, because the researcher does not have visual access to the interviewee in his/her environment key contextual data may be missed. However, in my case I was able to build on the rapport that I had already established in my initial face-to-face encounters with the two research participants. The absence of visual clues could, however, have limited my following through on some of the comments they made.

Focus group discussions

During my field study, I conducted two focus group discussions, one with 10 small-scale farmers from the land reform farm, Mardeck, and the commonage land around Victoria West

(seven men and three women), and one with 12 ‘backyard farmers’ from Victoria West (10 men and two women). Most of the participants in the focus group discussion with the small-scale farmers were ‘coloured’ farmers whose home language was Afrikaans. I had anticipated challenges around language, given that my Afrikaans is very basic, but this did not prove a serious obstacle. Half of the group had a working command of English and Themba assisted with translation for those participants who could not converse in English. Participants in my second focus group discussion with the backyard farmers were predominantly black and the discussion was therefore conducted mostly in Xhosa and Zulu.

The focus group discussions gave me an opportunity to generate a discussion on small-scale and backyard farming among people with similar backgrounds and experiences. Each of these discussions lasted for approximately 2 hours. They were both very informal. Participants were free to talk to each other and the relaxed atmosphere encouraged participants to be honest about their experiences and frustrations, the latter emerging most forcefully in relation to the land question in South Africa.

Observation

Observations throughout my fieldwork were very important for “identifying intangible factors, such as social norms, socioeconomic status, gender roles and religion, whose role in the research issue may not be readily apparent” (Mack *et al.* (2005: 1-2). I took field notes constantly, which proved invaluable during the data analysis stage. During my interviews I also gleaned a lot from observing the reactions of respondents to some questions, such as sighs or an exhibition of passion or a change in the tone of voice or, in some cases, swearing. This mostly happened around questions about land reform, the municipality, and the national government. I was, however, also mindful of the caution given by Coleman (2012: 254), that body language is not always easy to interpret, particularly if people are from different cultures.

Data analysis

My quantitative data obtained through the survey was analysed through use of the software package IBM SPSS which I used to generate basic descriptive statistics and answer questions on relationships among different measurable variables. Analysis of my semi-structured individual interviews and focus group discussions began during the interview processes, when I was already mentally sorting out recurring motifs and issues and noting what I considered

valuable information in my field diary. This process was also built into my transcribing process. To make sure that I retained a close relationship with my data, I transcribed all my interviews personally. Thereafter I analysed my transcripts using content and thematic analysis, guided by my research questions, to identify relevant information as well as issues and recurring themes. As has been noted by a number of scholars (McMillan & Schumacher, 2001; Lacey & Luff, 2007 and Ngulube, 2015), there are many different ways of analysing qualitative research: it is “an interpretative and subjective exercise, and the researcher is intimately involved in the process, not aloof from it” (Lacey & Luff, 2007: 6).

3.4 Ethical considerations

Ethical considerations are an important dimension of research. Various professional bodies and organisations have been responsible for formulating key principles, based on moral values, for guiding research that is ethical and does not wilfully harm others. In conducting my study, I was mindful of the principles of the International Sociological Association's (ISA) Code of Ethics, which are aimed at protecting the welfare of research participants “involved in the sociologist’s research efforts” (ISA Code of Ethics, 2001). My fieldwork was also conducted in terms of the protocols for ethical research set out in Stellenbosch University’s Policy for Responsible Research Conduct (2013). My research proposal first went through a Departmental Ethics Screening Committee (DESC) and from there to the Human Research Ethics Committee (REC) of Stellenbosch University, which approved my study as ‘low risk’. (See Appendix 6.) My experience in the field confirmed this assessment, with no notable ethical challenges encountered.

The free and informed consent of research participants to take part in the study is an important aspect of ethical social research. In adherence to this principle, I made use of written consent forms that farmers were asked to read and sign before engaging in the interviews. (See Appendix 7.) All the commercial farmer respondents were literate and able to read and sign the consent forms without help. However, with some of the small-scale farmers I had to use the help of Themba to read the consent forms in Afrikaans before participants were handed the consent forms to sign, if they agreed to proceed with the interviews. Most of my participants consented to my use of a recording device, apart from two key informants and three commercial farmers; in their cases I took interview notes in shorthand.

Another important principle in ethical research is to maintain the anonymity of research participants as far as possible and ensure that the information that they impart is kept confidential. Most of the individual farmers and some key informants insisted that I not use their names in my written dissertation, and I have therefore adopted a system of pseudonyms for all my informants, except those speaking to me in an official capacity. In this case I have followed my informants' preferences and used their positions in their departments but not their actual names to identify them where required.

3.5 Reflections on my positionality as a researcher

Greenbank (2003) maintains that individuals have different value systems that affect their attitudes and behaviours. These, in turn, might influence the design, implementation, and interpretation of one's data and conclusions if not managed (Riaz, 2016). Going into the field I had my own preconceived ideas of the challenges that I was likely to face in accessing my research participants, particularly the commercial farmers. The fact that I am a woman, a foreigner (Zimbabwean), black, and not conversant in Afrikaans rendered me initially nervous, as I anticipated that gaining access to the community and entrance to individual farms would be a huge challenge. I had read the reflections of other black researchers conducting research projects centred on developments in commercial farming communities (Zulu, 2015; Kamuti, 2016) and the way their social identity had affected the fieldwork process. What I took from their experiences was that one's positionality could work for or against one in unexpectedly complex ways. As defined by Holmes (2014: 3-4):

Positionality reflects the position that the researcher has chosen to adopt within a given research study and is normally identified by locating the researcher in relation to three areas, the subject, the participants and the research context and process. Some aspects of positionality are culturally ascribed or fixed, for example, gender, race, nationality whilst others such as personal life, history, and experiences are subjective and contextual.

In my case, because I did not share traits like language, race, and nationality with a core group of my participants, I prefigured my social identity as a handicap before starting my fieldwork. In preparing to enter the field I fortified myself with the words of the poet Maya Angelou in her poem 'I Know Why the Caged Bird Sings' – "Hoping for the best, prepared for the worst,

and unsurprised by anything in between” (Angelou, 2009). However, once my first few interviews with commercial farmers were completed, I found I had to rethink my preconceived notions about what my reception would be: in my case, I was surprised by the “in-between” and the unexpected ways in which the intersection of gender, nationality and race in my social identity worked for me.

Thus, with commercial farmers my being a woman presented me as non-threatening and the farmers I encountered were eager to participate in the interviews as well as offer their help towards the success of my research process. Significantly, my being a Zimbabwean (which I mentioned at the beginning of the interview or when prompted) seemed to make the commercial farmers relax; they were interested in why I was studying in South Africa, why I had chosen the topic I had and in discussing issues around land reform and changing livelihoods with me. In a couple of cases farmers who appeared initially suspicious about my questions around their farm sizes had their fears allayed when they established I was not a South African. Although all my participants were willing to respond to issues around land reform in South Africa, it was done with a degree of caution. However, after farmers had established that I was not there to confront them about land reform, a number were keen to engage me in conversation around the land reform process in Zimbabwe and my reflections on its aftermath.

In the case of the small-scale farmers, many made a point of letting me know how grateful they were for my presence in their community and their being given a chance to air their views on issues around agriculture and land reform. Initially I found my presence did breed expectations of the promise of land, as I was assumed to be a representative from the provincial Department of Agriculture and Rural Development. I did fear that once I had corrected this misconception people’s enthusiasm would abate; however, the fact that I was a student and a foreigner who could speak their language (Xhosa) rendered me of considerable interest among the black small-scale farmers I encountered in Victoria West still. My meetings with them were characterised by the greeting ‘*Wamkelekile ntombi yethu*’ [You are welcome, our daughter].

However, although the relationships I established with my research participants were generally cordial and welcoming, I did have to negotiate a sense of expectation among my research participants that I would not simply respect but actively empathise with the challenges they are facing. For example, most of my commercial farmer participants expected me to be sympathetic with their concerns around land expropriation, given my own experience as a Zimbabwean, as the following quotation from an interview with one of them makes clear:

Charmaine, you can understand that land expropriation can bring the South African economy to its knees if not implemented properly. From your own experience as a Zimbabwean, I think you understand the urgency around a properly implemented land reform to ensure that land invasions are contained (livestock farmer Hendrick, interview, 2017).

The expectation of shared views was also evident in the way the small-scale farmers related to me during our interactions. As a young educated black woman, I was expected to feel and respond to the injustices of their reality as struggling, landless farmers surrounded by white farmers with their sprawling farms.

In reflecting on my field process, I have come to the conclusion that starting with an initial scoping trip, working through key informants who were locally trusted and with whom I was able to establish good relationships at the start, and investing time and energy in building rapport with my informants during interviews all helped ease me into the community and engage in interactive conversations that removed the barriers of difference that I had initially perceived. This was an indication of the importance of reflexivity in the research process, as argued by Yao & Vital (2018: 195):

[...] reflexivity also requires high levels of connection with participants. Reflexivity requires researchers to come from behind the protective barriers of objectivity and, as a result, researchers can connect with others to humanize and relate to participants in the research relationship.

A reflection on positionality thus provides understanding on not only the research process but also the research outcome.

3.6 Reflections on the limitations of my research design

Although I consider that this study does make a valuable contribution to our understanding of the dynamics around game farming in the Ubuntu Local Municipality and, by extension, other Karoo areas, it does not address all the issues around the sector equally. Two areas that have not been explored in-depth need to be acknowledged as limitations: first, the position of farm workers on commercial farms and second, the farm-level economics of game farming compared to livestock farming in my study site.

Regarding the first issue, my research design did not make provision for accessing farm workers on the farms belonging to the commercial farmers whom I interviewed. My survey was also not designed to probe this issue from the farmers' point of view in any depth. While my primary research focus was on the farmers and their motivations and understandings of sustainability, rather than on the experiences of farm workers on game and livestock farms, more hard data on changing labour practices on Karoo farms would have enriched the study. However, researcher access to farm workers independently of their employers is notoriously difficult (see for instance, Gastrow & Oppelt, 2019) and I was concerned not to jeopardise my research relationship with the farmers; I also did not consider interviews with workers under the supervision of their employers to be a productive use of my time. However, I did address the issue of farm dwellers and farm employment with the commercial farmers, which was useful for putting into perspective the charge against game farmers, that they have been particularly active in evicting workers from their farms. I also engaged with the available research and debates on these issues.

Regarding the second issue, that of the actual economics of game farming versus livestock farming at the individual farm level, I was unable to go beyond farmers' descriptive accounts of their financial situation and the economic calculations informing their (and others') decisions around wildlife and/or livestock farming. Farmers were not willing to share hard data about their farm budgets, incomes and expenditure with me and I did not push this, in the interests of preserving good relationships not only with the individual being interviewed at the time, but also the larger community which I knew to be a close-knit one, in which my research was a subject of interest and topic of social conversation. I therefore had to rely on secondary data sources for hard data on farm incomes.

3.7 Conclusion

This chapter has offered reflections on the research design and methodology that informed this study. In my gathering and analysis of data, I acknowledged that knowledge is neither absolutely objective nor subjective. As such, the data collection methods utilised in this study (interviews, observations, focus group discussions, etc) have involved an inter-subjective production of knowledge (linking researcher and research participants), the latter also shaped by historical and contextual factors. The chapter therefore sets the scene on how I studied the

switch to game farming in the Ubuntu Local Municipality, using a mixed-methods approach to generate data to answer my primary research questions. This data is unpacked in the following chapters, beginning with an overview of the game farming industry and debates around its sustainability in Chapter 4, followed by a social and environmental history of land and agriculture in the Karoo in Chapter 5, and then my research participants' views on game farming and its relationship to the three dimensions of sustainability in chapters 6 to 8.

Chapter 4: The game farming industry in South Africa: A literature review

This chapter reviews the literature on the game farming industry in South Africa, building on the brief account of the sector presented in the introductory chapter. The discussion presents salient features of the industry nationally in section 1, starting with an overview of the sector, followed by brief reviews of its primary sub-sectors (ecotourism, breeding, game auctions and hunting) and the regulatory framework governing the sector. This draws, *inter alia*, on information supplied by the industry itself. Section 2 reviews the debates in the sociological and environmental literature on concerns that have been raised about the sustainability of the game industry in terms of its environmental and social impacts. In structuring this discussion, I have been guided by my conceptual framework and the understanding of sustainable development discussed there, which emphasises the need for the ecological and social imperatives of sustainability to be actively engaged.

4.1 Overview of the game farming sector

4.1.1 The scale of the industry

As already noted in Chapter 1, the development of game farming on privately owned land in South Africa has grown dramatically following the creation of enabling legislation, the Game Theft Act of 1991, that conferred ownership rights over wildlife to landowners. Its advocates see this growth as not only evidence of the economic opportunities it presents but also of its credentials as an industry that is benefiting conservation and is consistent with sustainable agriculture; its sceptics, however, are critical of its failings in terms of promoting social equity and genuine environmental conservation. Issues of social justice have been central in this debate, especially concerns around racial exclusion and the industry's reinforcement of the white, khaki-clad Afrikaner identity of commercial farmers (Brandt, 2013). To this have been added concerns around its class and gender character (Zulu, 2015).

In South Africa wildlife numbers have increased from 575,000 in the 1960s (Carruthers, 2008), to close to 14 million head of game in 2014 (WRSA, 2014), much of which can be attributed to the growth in the game industry. Current estimates put the number of private game farms in

South Africa, both registered and unregistered, at around 11,500 (DAFF, 2016), 20 % of these located in the Northern Cape (DAFF, 2015). Snijders (2015: 152) has, however, observed “that figures on the industry’s dimensions are imprecise and out-dated” and that the industry “may be much bigger, but also it could be much smaller than presented”. Kamuti (2016) has also highlighted that although DAFF has enacted legislation to regulate the game farming industry, loopholes in the state’s management system mean that many game farms are unregistered and, in some cases, inadequately fenced. This is evident if one compares the 2006 estimate of the National Agricultural Marketing Council of the total area allocated to game farming that was cited in Chapter 1 – some 20,5 million hectares – with the 2016 figure for registered game farms provided by Ramsay (2016), which, while still substantial, is approximately half the 2006 figure, at 5,061 farms and 10,364,154 hectares. By way of comparison, according to the Government Communications (GCIS) *South African Year Book* (2014), in 2014 the number of commercial sheep farms was estimated at around 8,000.

Table 4.1 below shows the provincial distribution of *registered* game farms in South Africa and their area as of 2016.

Table 4.1: Distribution of registered game fenced farms in South Africa in 2016

Province	Number of registered game fenced farms	The total area of registered game fenced area	Mean Size of game farms (ha.)	% of total ranches
Free State	180	147,743	820,8	3,6
Limpopo	2482	3,325,652	1339,9	49,0
North West	340	364,935	1073,7	6,7
Mpumalanga	205	276,016	1346,4	4,1
Gauteng	72	82,076	1139,9	1,4
KwaZulu-Natal	90	168,841	1876,0	1,8
Eastern Cape	624	881,663	1412,9	12,3
Northern Cape	986	4,852,053	4921,0	19,5
Western Cape	82	265,205	3234,2	1,6
South Africa	5,061	10,364,154	2047,8	100,0

(Source: Ramsay, 2016: 141)

Unfortunately, South Africa’s agricultural censuses are not run on a regular basis, but according to the *Agricultural Abstracts* of 2013, in 1993 the total area allocated to commercial animal production was 63,384,734 ha. (DAFF, 2013:6). Based on this information, the area allocated to *registered* game farming in 2016 amounted to approximately 16 % of the total hectareage allocated to ‘animal’ production; if unregistered game farming is taken into account, the proportion would, of course, be still higher.

Although Limpopo has the largest number of registered farms in South Africa (2,482), Northern Cape, with just under 20 % of the total number of farms (986), has the largest area of land allocated to registered game farms (47 % of the total) and the largest average farm size. Here it is important to note that although the size of a game farming venture is influenced by the objectives of the game farmer (du Plessis, van der Merwe, Peet & Saayman, 2014a), it is also a reflection of the ecology and agricultural potential of the region. Game farming ventures may also be more or less extensive or intensive. Extensive game ranching refers to a system in which the farm is large enough to support the natural migration of species (generally in the region of 2,500 ha. or more) and human interference is minimal (WRSA, 2014). A more intensive game farm is generally much smaller, with internal fenced camps in which the wildlife is kept, feeding on the veld as naturally as possible, although supplementary feed for certain species may be provided, especially during periods of “nutritional stress” (Kriek, 2017).

While the social and ecological benefits of the game farming industry have been questioned, the economic contribution of this industry to South Africa’s Gross Domestic Product (GDP) is significant. Bothma, Suich & Spenceley (2009), amongst others, have noted that the economic data on the game farming sector is fragmented and not always reliable, because of the diversity of its value-adding and revenue-generating activities (and, doubtless, also because many game farms are not registered as such). In 2014, however, the industry estimated it contributed approximately R30,5 billion to the South African economy, with hunting and ecotourism the major contributors. Table 4.2 below shows the sub-sectors and their estimated contribution; the figures shown in this table exclude the value of associated secondary industries, for example taxidermy, translocation, accommodation and gun manufacturing etc. (du Plessis *et al.*, 2014a; Oberem & Oberem, 2016). For comparative purposes, in 2011/12 the gross value of South Africa’s maize production was put at just over R24,5 billion (DAFF, 2013:7).

Table 4.2: Estimates of income contribution of sub-sectors of the game industry in 2014

Primary activity	Estimated Contribution
Hunting	+/- R7,5 billion
Eco-tourism	+/- R2,5 billion
Live Game Sales	+/-R1,8 billion
Breeding	+/-R1,8 billion
Total estimated contribution	+/- R13,6 billion

(Source: WRSA, 2014)

The breeding sector of the game industry has been thrust into the limelight in recent years because of the potentially huge profits to be derived from the breeding of rare species and

colour variants (Cloete, 2017a), which has raised questions about ethical and conservationist standards. Rare-game breeding has become an extremely lucrative enterprise for some, as wealthy businesspeople have realised the financial returns that are possible within game farming (Steyn, 2012). In 2013, for instance, businessman Johan Rupert bought a buffalo with a 53-inch horn span for R40 million while then businessman and current President Cyril Ramaphosa sold three white flanked impalas for R27,3 million in September 2014 (Vollgraaf & Crowley, 2015). In 2014, a kudu bull was auctioned for a record-breaking R9,4 million (Vollgraaf & Crowley, 2015) and in 2016 an Inala buffalo bull sold for a record-breaking price of R168 million. The capital growth on these investments and their offspring can be huge. In his thesis, Zulu argues that “capital muscle in the game farming industry is an extremely effective way of hindering inter-group permeation thus continuing the exclusion of other people” (Zulu, 2015: 143). (This, however, is not unique to the game industry within a free-enterprise, capitalist system.)

As discussed further below, a major concern within the industry is how sustainable these elevated prices are over the longer term, with suggestions that “the economic reliance on novelty value alone may eventually lead to price instability or even market collapse similar to large-scale collapses of economic bubbles” (Dalerum *et al.*, 2018: 82). In 2015, Chris Niehaus (former head of the South African Hunters and Game Conservation Association) said “the record animal prices are a ‘bubble’ as they are inflated by wealthy breeders trading between each other” (Vollgraaf & Crowley, 2015). As defined by Cloete (2017: 14) an economic bubble is a situation where asset prices increase rapidly only to be followed by a slowdown or actual crash - i.e. only to suddenly crash (or burst). In this case investors in the breeding pillar of the game industry had pushed up the prices of colour variant animals, driven by speculative rumours fuelling the market; however, once the market realised there was no sustained underlying demand, prices came crashing down (Spoorex News, 2017). The softening of the colour variant market was clearly visible in the prices of most plains game species during the middle to latter parts of 2016 (Cloete, 2017b).

A further contentious issue concerns the negative impact of the game farming industry on the position of farm workers and dwellers on farms that have been converted into game farms, an issue that is revisited in section 4.2.1 below. Several studies have, however, argued that the game farming industry is contributing more to overall employment than livestock farming (ABSA, 2003, 2013; Langholz & Kerley, 2006; Taylor *et al.*, 2016). According to the WRSA (2014), in 2014 the wildlife sector supported a total of 65,170 permanent jobs.

4.1.2. The sub-sectors of the game industry

As shown in Table 4.2 above, the game industry comprises several sub-sectors, generally identified within the industry as ecotourism, hunting, breeding and live sales. Individual farms may be geared towards all these activities or only one or two of them, with the location of the farm, including proximity to major tourist routes, as well as its size, topography, vegetation, variation in landscape and infrastructure all factors that influence decisions around the primary business focus (du Toit, van Rooyen & van Rooyen, 2016). Market trends in the game farming industry have dictated that game farmers work on creating competitive advantage through lowering their costs or having differentiated products (e.g. colour variations /exceptional trophy species) that command premium prices (Nel, 2013).

Ecotourism

In the 1990s Evans & Ilbery (1992) noted a shift from an emphasis on production-related activities on farms towards income-generating activities that are based on the marketing of recreational experiences and aesthetic values associated with the farming lifestyle and/or the countryside. The growth of eco-tourism on game farms is a major example of this. The game farming sector has been particularly successful in linking its farming activities with the tourist industry, through vertical integration (the provision of lodges, many boasting a high-end ‘safari’ experience, guiding, etc.) and linkages to local and regional tourism multipliers (the supply of food, wine, transport, etc.) (Child, Musengezi, Parent & Child, 2012). Tourism activities on game farms are classified by the industry as either “consumptive”, i.e. hunting, or “non-consumptive”, the latter encompassing a range of recreational activities that include game viewing, night drives, bird watching, quad biking, 4x4 trails, horseback riding, cycling, field guide training, caving, mountain climbing and cultural activities such as viewing rock art (du Plessis, van der Merwe & Saayman, 2014b; Oberem & Oberem, 2016). Non-consumptive activities are generally considered less detrimental for the environment (Duffus & Dearden, 1990; Saayman, 2014; Mwakiwa, Hearne, Stigter, De Boer, Henley, *et al.*, 2016).

The economic return to the individual game farmer varies according to the nature of activities offered to tourists as well as the quality of the facilities and accessibility of the location (van Hoving, 2011; du Plessis *et al.*, 2014a). Non-hunting tourists are most attracted to farms that house the ‘big five’ (i.e. elephant, lion, buffalo, leopard, rhinoceros), and/or have rare species of flora and fauna; these enterprises tend to compete successfully with the country’s premier National Park, the Kruger National Park, and upmarket lodges can be extremely profitable (van

Hoving, 2011). Ecotourism has been advanced as a tool for sustainable development in developing countries because it is seen to represent a non-consumptive, hence sustainable, use of biodiversity that benefits local communities while conserving the environment (United Nations, 2015 Kopnina, 2017). The counterargument, that it represents the commodification of nature and relies on ‘greenwashing’, is addressed more fully in section 4.2.1 below.

Game breeding

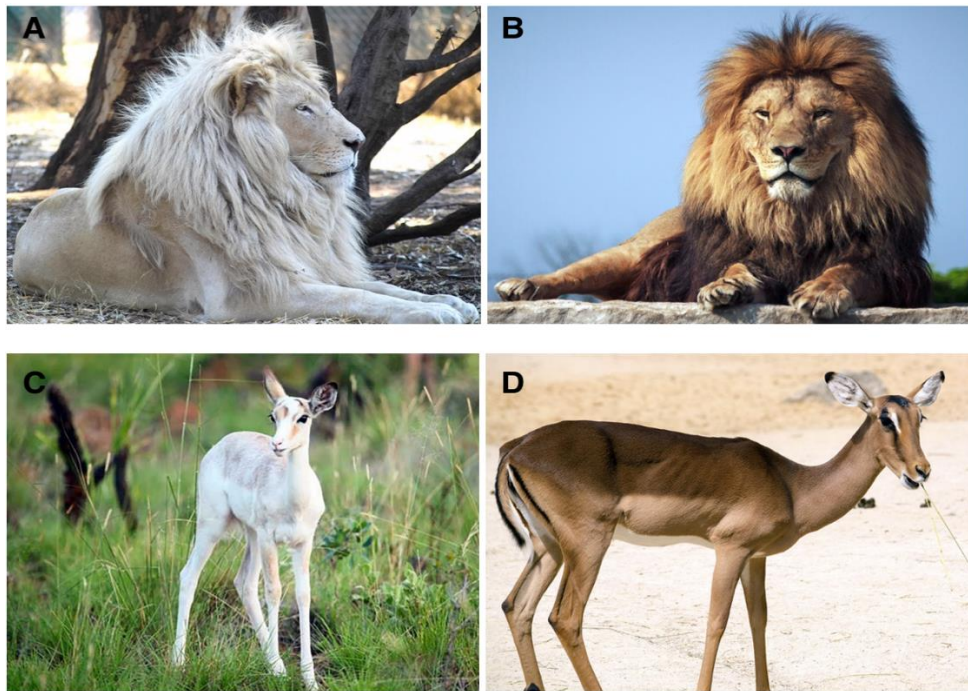
Game breeding is the “intentional selection of game animals for breeding with the intended output being more desirable qualities in the next generation” (Oldenbroek & van der Waaj, 2014: 11). The continued effort by game farmers to improve the quality and genetics of their wildlife and avoid inbreeding (Graupner, 2017) as well as to restock their farms for ecotourism, hunting or conservation purposes has seen game breeding emerge as an important sub-sector within the industry (Oberem & Oberem, 2016). It can be divided into three categories, namely: the breeding of common species (such as kudu, springbok, and impala); the breeding of endangered and rare species (such as roan antelope, sable and black rhino) and the breeding of what have been termed ‘colour variants’, i.e. animals that are differently coloured from regular or ordinary representatives of the species (see figure 4.1 below) (van der Merwe, 2014).

The breeding industry has, by and large, been fuelled by the hunting industry (discussed further below). However, according to *Spoorex News* (2017), hunting of colour variants was never a major driver of the international hunting industry and the appeal of this activity was further blunted by international travel and wildlife bodies taking steps to condemn the breeding of colour variants. For instance, in 2011 the International Council for Game & Wildlife Conservation (CIC) stipulated that colour variants should not be hunted as they are genetically manipulated (Thomas, 2017). In 2015 African Airways Ltd. and Emirates Airlines both banned customers from transporting lion, elephant, rhino and tiger carcasses while Australia outlawed the importation of the body part of lions (Crowley, 2015).

One consequence was a mismatch in the demand and supply of colour variant animals, resulting in the crash of prices in the breeding sector referred to above. These price drops were especially dramatic: for example, black Impala went from R8,2 million to R48,333 between 2013 and 2016. In an interview with me, a game farmer in the Ubuntu Local Municipality expressed dismay at the drop-in game prices by saying:

Game farmers have been really caught unawares by the sudden drop in prices, some farmers bought prime game worth millions and now that same game today is worth less than a quarter of their initial value. This is a disaster because some farmers got loans to finance their operations, the slide in prices may mean that they are now insolvent and may lose everything that they have spent years accumulating and building (game farmer Gert, interview, 2017).

Figure 4.1: Breeding for 'colour variants': A - white lion, B – standard lion, C – white-flanked impala, D - standard impala



(Source: A: Getty Images; B-Arno Meintjes/Getty Images; C-Phala Phala Wildlife; D-, Villy Yovcheva/Getty Images)

Defending the hunting industry, Lizanne Nel, conservation manager at the SA Hunters & Game Conservation Society (SA Hunters), has argued that not only do most hunters shun colour variants, but they also want to hunt responsibly, and this cannot be achieved with animals that are bred in captivity. She attributes the collapse of colour variant prices to advocacy work done by SA Hunters and other hunting and conservation bodies (Thomas, 2017). Some observers doubt that the exorbitantly high prices of a few years back will be seen again but some game farmers I interviewed remain optimistic that while auction prices might have collapsed, the hunting of colour variant species will pick up again as the prices are now more affordable:

Check out prices of colour variants in South Africa. Now that the prices of colour variants have lowered, hunters can afford them though colour variants still fetch a higher hunting price from their normal counterparts (game farmer Daan, interview, 2017).

Some farmers also argue that environmental factors are the primary reason for the decline in the price of game at auctions in recent years, as farmers have had to contend with the consecutive droughts besieging the country. This has not only resulted in the loss of prized game but also led to many farmers trying to sell off their game, resulting in the saturation of supply and the softening of prices (Janovsky, 2016). However, according to the Eastern Cape chairman of Wildlife Ranching South Africa, Gerhard Heyneke, prime genetic specimens are still raking in millions of rands for their breeders (Marais, 2017). The focus in the breeding industry seems to have shifted from colour variants towards breeding quality animals that can still fetch exceptional prices.

Game auctions/ Live game sales

Game auctions have become an increasingly important sub-sector within the game farming industry, in response to the growing demand for wildlife species, including rarer types (Bothma, 2002; Bothma, Von Bach Sartorius & Cloete, 2016). According to Bothma *et al.*, (2016), the market has gone through three phases: first, sales aimed at the stocking of new wildlife ranches and conservation areas, initially driving the market; then sales around the production of rare species and indigenous wildlife, and then sales aimed at meeting the demand for exotic species and rare colour variants. The two most common auction systems are the *boma* [small enclosure] system and the catalogue option. In the *boma* system, wild animals are captured and taken to a central location where buyers and sellers negotiate the prices (NAMC, 2006: 22). With the catalogue option, buyers view the animals via brochures or electronic media. Other less common methods include private sales negotiated between the buyer and the seller and electronic auctions (Oberem & Oberem, 2016).

Hunting

As already noted, the hunting sub-sector in the wildlife industry is closely aligned with that of breeding. According to the Professional Hunters' Association of South Africa (PHASA), South Africa "has an unrivalled diversity of species – more than 45 major plains game species and all of the Big Five may be hunted here".⁸ Hunting in South Africa can be divided between trophy hunting and meat hunting for biltong or venison, with most biltong hunters South Africans and

⁸ See their website, <https://phasa.co.za/south-africa-as-a-hunting-destination/>

most trophy hunters foreigners (du Plessis *et al.*, 2014a). A 2011 study on hunting in the Northern Cape Province estimated that 53 % of the international hunters coming to the province were from the United States of America and 41 % from Europe. This research also showed that the preferred destinations for hunting in order of preference was first Limpopo, followed by the Eastern Cape, with the Northern Cape in third place (Saayman, van der Merwe & Rossouw, 2011). One 2016 study estimated that almost 9,000 international trophy hunters (8,950) were coming to South Africa annually, with each hunter spending an average of R138,000 per visit (Janovsky, 2016). Local hunters are, however, the backbone of the hunting sub-sector in the game industry, with an estimated 200,000 biltong hunters in South Africa spending an average of R31,000 per individual/annum on hunting (Janovsky, 2016). A survey undertaken by North-West University in 2005 found that local hunters are overwhelmingly (87 %) white, Afrikaans-speaking men (Saayman *et al.*, 2011).

Hunting can be either for big game (e.g. kudu, eland, and elephant) or small game (e.g. ducks and game-bird hunting) (Van der Merwe & Saayman, 2013). According to Van der Merwe and Saayman (2013), the hunting industry is very competitive and to survive owners/managers of hunting enterprises have to develop attractive facilities and activities for their clients. Trophy hunting is legal and most leading conservation bodies (as opposed to animal rights and welfare groups), including the Department of Environmental Affairs, regard regulated trophy hunting as a valuable conservation tool and essential component of the country's overall wildlife conservation strategy (<https://phasa.co.za/2018/05/15/hunting-information/>), inasmuch as it supports the preservation of individual species and natural landscapes. Table 4.3 below shows the top five income-generating species for trophy hunting.

While trophy hunting attracts the most attention, biltong hunting, the largest component of the hunting market in South Africa, generates the most revenue (van der Merwe, 2014a). Biltong hunters often arrange hunts privately with game farmers and are generally associated with the hunting of common plains game species such as impala, springbok, kudu and eland (Van der Merwe & Saayman, 2013). Biltong hunting is common on commercial farms in the Ubuntu Local Municipality, where, according to the farmers I interviewed, farmers have for decades hunted the game on their farms for sport and biltong, with family and friends.

Table 4.3: Top five income-generating species for trophy hunting

Rank	Game Species	Income (Rands)
1	Lion	176,104,472
2	Kudu	56,473,900
3	Buffalo	52,407,863
4	White rhinoceros	46,452,274
5	Nyala	32,046,649

(Source: van der Merwe, 2014)

4.1.3 Regulation of the game sector

Game farming in South Africa raises a wide range of health and safety, environmental as well as ethical issues that have resulted in the development of various legislative controls over time. According to Kamuti (2016), who has done an in-depth study of private wildlife governance, there is no coherent policy on game farming in South Africa. There is, however, legislation at both the national and provincial levels relating to different aspects of the industry. The major regulations governing the game industry at the national level have been formulated by the Department of Environmental Affairs and DAFF. The main piece of legislation at the national level is the National Environmental Management Biodiversity (NEMBA), Act 10 of 2004, which distinguishes game farming from livestock farming and provides for the management, conservation and “use of indigenous biological resources as well as the fair and equitable sharing of benefits arising from these resources”. Other relevant legislation includes the Fencing Act, 1963 (Act No 31 of 1963) and the Conservation of Agricultural Resources Act, 1983 (Act no 43 of 1983).

At the provincial level, Departments of Environment and/or Nature Conservation are generally tasked with the issuing of permits and licenses that regulate different activities and practises on game farms (NAMC, 2006.) In the Northern Cape the Department of Environment and Nature Conservation has the mandate to regulate, amongst other things, the hunting of animals, fencing and the trade in endangered species. These regulations require game farmers to meet certain requirements regarding environmental impact assessments, fencing and the translocation of game, which are briefly reviewed below.

Environmental Impact Assessments

Before the introduction of any species on the farm, a game farmer or manager is required to carry out an Environmental Impact Assessment (EIA) (du Toit, van Rooyen & van Rooyen, 2016). An EIA helps determine the quality of the environment (encompassing assessments of the geology, plant and animal life, water resources, air quality, etc.) prior to assessing the impact of the proposed activity on the farm (direct or indirect) and the variety and number of animals that can be kept there (du Toit et al., 2016). The EIA, as explained by a Biodiversity Officer (Department of Environment and Nature Conservation), is essential for minimising the risk factor for farmers when they introduce game animals on their farms.

Fencing

Very high boundary fences are a prominent feature of game farms that have attracted considerable debate in terms of their environmental as well as social impacts. Only landowners who have fenced their properties in terms of the minimum standards required by the Department of Environment and Nature Conservation receive the permits that allow them to have game on their farms and engage in wildlife trading, hunting and the translocation of game. The type of fencing on a game farm is determined by the type of animals that are to be kept inside and those to be kept outside the farm, as well as the nature of the terrain and available finances. There are no standard specifications – it is the farmer's responsibility to evaluate his plans and consult with the Department of Environment and Nature Conservation Office.

The development of fencing has historically marked the assertion of private property rights over land in the Karoo and, as already explained in Chapter 1, has allowed for the extension of such rights over wildlife as well. Historically fencing has also marked the advent of controlled access to environmental resources in the name of conservation (Brockington *et al.*, 2008; Büscher & Fletcher, 2015); on game farms they have been seen as designed not only to control the movement of animals but also of people (Haywood, 2007; Brandt, 2013; Brandt & Spierenburg, 2014; Mkhize, 2014; Kamuti, 2017). At the same time, the efficient method of exclusion through the use of fencing that accompanied the advent of settled (white) farming and the appearance of merino sheep farming also led to the demise of the great game herds and major springbok *treks* (migrations) in the Karoo (Cronwright-Schreiner, 1925; Skinner, 1993; Skinner & Louw, 1996; van Sittert, 2002). (On this see Chapter 5.)

According to Dean, Seymour & Joseph (2018) from an environmental point of view fences can be viewed in different ways. As unnatural “linear structures” they have negative impacts in most ecosystems that include habitat loss, habitat fragmentation and disruption of animal/ bird migration routes (as with the historical springbok *treks*). The authors have, however, also pointed out that fences can be advantageous for biodiversity protection in some instances, to the extent that they minimise human/ wildlife conflict and protect animals against being hit by vehicles on public roads.

Regulating translocation

Translocation policies and regulations allow or prohibit the introduction of species into demarcated areas and stipulate the conditions under which this may occur (Koen, 2014). Not only biodiversity issues are considered during the translocation of wildlife; promoting animal welfare and managing animal diseases are also important. The movement of disease through translocation can have devastating impacts, not only on the wildlife but also on other sectors like livestock farming and public health (Leighton, 2002: 188).

The translocation of animals is regulated on a national and provincial level. In South Africa, each province has its own conservation authority, with its own regulations and permit requirements (La Grange, du Toit & van Rooyen, 2016). In the Northern Cape the conservation authority is the Department of Environment and Nature Conservation, which requires export and import permits from both the province of origin and the province of destination to transport animals across provincial boundaries. According to Patrick, a key informant in the Department of Environment and Nature Conservation whom I interviewed, this system is designed to ensure that species that cannot adapt to the Karoo environment cannot be introduced onto Karoo farms by private game farmers and is working well:

Criticisms around some species to be found in the Nama Karoo Biome is not substantiated by research and evidence because different species of wild animals are only approved to be in the biome after there has been approved habitat analysis for any species (Biodiversity Officer, interview, 2017).

A veterinary permit is also required to move animals, as there are certain restrictions on the movement of cloven-hoofed animals across veterinary zone boundaries (Koen, 2014). These permits are issued in terms of the Animal Diseases Act (35 of 1984), the Animal Health Act (7

of 2002), the Fencing Act (31 of 1963) and the Animal Identification Act (6 of 2002) (NAMC, 2006; La Grange *et al.*, 2016).

The Wildlife Translocation Association of South Africa (WTA), which was established in the 1990s, represents professional game capturers and related industry role-players involved in game capturing and transportation (NAMC, 2006). As outlined on their website,⁹ their role involves the facilitation of “communication between private ranchers and the nature conservation authorities through the adoption of a co-operative approach that is aimed at improving professional and ethical standards within the industry”.

4.2 Key debates on the environmental and social sustainability of game farming

4.2.1 Environmental dimensions of game farming

A key debate centres on the extent to which game farming is a further example of the privatisation and commodification of nature or is making a contribution not only to individual livelihoods and national and provincial GDP, as already described, but also to the conservation of biodiversity. Here three issues have dominated the discussion, each of which I address below: first, selective breeding, including that of colour variants, second, the introduction of “extralimital” species into landscapes where they have not historically been found, and third, the issue of hunting, in particular trophy and so-called “canned” hunting, i.e. hunting of animals that have no chance of escaping the hunter.

The privatisation and commodification of nature

Concern about the privatisation of nature extends well beyond the issue of game farming. It is a significant theme within broader political-ecological debates about economic development, unequal access to natural resources and social justice. The enclosure of formerly open rangeland and closing off of access to the natural resources which are essential for livelihoods have been central to the development of settled farming in the Karoo, as is described more fully in the next chapter. Globally the “surviving commons in forests, fisheries, wildlife, and so on are steadily being transformed into private property as the exploitation of nature continues to be a crucial accumulation strategy” (Mansfield, 2007: 394). The commodification of nature

⁹ See information at www.wtass.org accessed 16/03/18

represents the creation of new sources of value in global consumption-based economies (Kamuti, 2015a; Snijders, 2015), appropriated by and for elites.

As discussed in Chapter 2, the growth in wildlife farming has in part been facilitated by conservation narratives that view game farms as an extension of protected areas and thus making an important contribution to biodiversity conservation. However although wildlife ranching markets itself as saving Africa's wildlife and natural habitats, while also being more profitable than traditional farming, many conservationists and environmental scientists are sceptical of "a business that's shot through with perverse incentives and doused in greenwash" (Welz, 2017). The debate on the commodification of nature is particularly intense with regard to the breeding of colour variants and hunting, although eco-tourism is also criticised as an appropriation and exploitation of "nature" (Büscher, 2009). According to Kamuti, "game farming is to a large extent a business disguised as conservation with farmers keeping only what is economically viable on their farms" (Kamuti, 2015b: 203).

The breeding of high-value game and colour variants

With regards to breeding, as already noted, a market has been created for animals with characteristics associated with rarity as well as particular ideas of beauty and environmental aesthetics. The demand for these "oddities" of nature have in turn driven up the prices of rare and colour variant species as discussed above (Dalerum *et al.*, 2018). The elevated economic values of colour variants has led to accusations of the intensification of breeding of these species in breeding camps as small as 50 ha., to minimise costs and maximise profits (Oberem, 2015; Thomas 2017). (See Figure 4.2 below.) This has led to concerns that the over-utilisation of rare species and colour "morphs" (as colour variants are often called) may actually lead to their extinction (Dalerum *et al.*, 2018). A further concern is the inefficient utilisation of natural resources, as only specific species, those that fetch high prices on the market, are being bred (Janovsky, 2016).

Figure 4.2: Breeding Camp



(Source: WRSA, 2014)

In defence of the environmental credentials of game farming, research conducted by the WRSA and organisations like the Endangered Wildlife Trust (EWT) indicates that the wildlife industry has contributed towards the increase of certain species that were considered endangered in the mid and late 20th century. (See table 4.4 below.) According to Bezuidenhout (2010), the private wildlife sector is contributing to the conservation of biodiversity in South Africa but this is being undermined by the ignorance or disregard of natural systems and ecological processes amongst some game farming ventures – in other words, the problem is an individual not a systemic one. In similar vein, Nel, the Manager of Conservation of SAHGCA (South African Hunters and Game Conservation Association), proposed that “private wildlife ranching can be a huge win for conservation if landowners focus on extensive ranching of free-ranging, naturally breeding animals rather than intensive, tightly managed breeding of animals kept in small, electric-fenced camps” (Welz, 2017).

Furthermore, not all game breeders are focusing on the breeding of “freaks” and farming with “exotics”. For example, none of the game farmers in the Ubuntu Local Municipality were breeding colour variants; all were breeding stud quality animals. Thus, according to one of my key informants, the game farming sector has not only been instrumental in the increase in rare species and colour variants but has also an increase in plains game, which is evidence of its conservation credentials (Doug, WRSA, interview, 2017). Furthermore, according to Kriek (2017), farms earmarked for breeding are often farms with marginal land, without eco-tourism

potential, which thus have a vested interest in observing environmental limits in the way they manage their game.

Table 4.4: Species preserved by the wildlife ranching sector in South Africa

Species	Total (approximate) in South Africa 1950	Total (approximate) in National Parks 2015	Total (approximate) on private ranches 2015
White rhino	30	12,000	5,000
Black rhino	30	1,500	450
Blesbok	2,000	25,000	>225,000
Bontebok	19	1,000	>7,000
Sable antelope	450	<500	25,000
Roan antelope	150	<200	6,000
Cape mountain zebra	<80	1,925	865
Black wildebeest	<500	1,800	>15,700

(Source: WRSA, 2016)

According to some analysts who are sympathetic to the industry, social media (popular press, blogs, journals, etc.) have played a big role in the creation of misperceptions about the industry. This is an argument put forward by Graupner (2017: 15):

In the popular press and even some ‘scientific’ papers, a perception has been created that the game-ranching industry is propagating cross-breeds of species they have created, using genetic manipulation, and thus threatening biodiversity on their game ranches, where they breed animals in small enclosures [...]. This viewpoint has been communicated to people and organisations outside of South Africa, presumably to drum up support for their viewpoint. One of the results of these actions is that some colour variants are not recognised by international trophy registering organisations. In the potential market, the perception has been created that South African game ranchers are genetically manipulating animals in small enclosures to be hunted by trophy hunters. This is doing serious damage to South Africa as a hunting destination involving trophy hunting tourism, resulting in direct revenue loss, not only to ranchers but to the ranching industry and the country.

Although the breeding of colour variants has attracted much attention, in her research Josling (2017) found that most wildlife in South Africa can be considered natural, with colour variants

amounting to under 5% of the total and thus in no way a threat to biodiversity. Furthermore, argues Graupner (2017: 16), selective breeding is not about the manipulation of wildlife to create mutants but, rather, about applying the laws of natural selection in which the farmer “defines ‘fit’ within the constraints of the habitat”:

Whether the selection is for body size, horn length, coat colour and so on, the same rules for survivability apply to the desired selection within the constraints of habitat. In the breeding of colour variants, the same principle applies: naturally occurring colour variants (natural mutations) are selected and bred.

Thus, selective breeding it is argued, is not a new phenomenon invented by the game industry but has been practised for generations by livestock farmers to produce animals that are well adapted to and able to survive in their environments. An example is the dorper sheep which was successfully bred in South Africa (in the Karoo) in the 1930s, by crossing the Persian and the Dorset sheep to “develop a hardy mutton sheep capable of surviving, reproducing and producing fast-growing lambs off the veld in the low rainfall areas of the country” (Snyman, 2014: 1).

According to one of my key informants, Doug, colour variants occur naturally in ungulate populations and are an indication of natural genetic diversity; they were not genetically engineered in a lab by game farmers (WRSA, interview, 2017). According to Oberem (2015) one of the first colour variants to be recorded was a golden oryx, hunted down in 1906; furthermore, golden wildebeest have been known to occur in the wild for decades in the southern parts of Botswana, whilst the black and white impala were sighted in the Kruger National Park around 1974. The number of white impala in the Kruger National Park has been steadily increasing (Breytenbach, 2017), indicating an ability to survive in nature without human interference that is equivalent to that of the “normally coloured” variant (ibid, 2017). However, some scientists have cautioned that although the breeding of rare species and colour variants may not pose a general threat to biodiversity (Josling, 2017), the selective breeding of species that are the most profitable for the farmer might limit the genetic diversity within the breeding stock, compared with the wild species from which it originates. Thus le Roux & Pfitzer (2016) have suggested that selective breeding must be used as a management tool with the ultimate aim of supporting the return of species to their natural habitats; there is, however, limited research on how successfully animals bred on game farms are able to adapt to this. Franklin, Serra-Diaz, Syphard and Regan (2016) also call for more research on the contribution of wildlife ranching to the ‘green’ economy.

Extralimital species

Another controversial issue within the game farming industry, also seen by its critics as indicative of the commodification of nature, concerns the introduction of species that do not naturally occur within the specific area onto local game farms, in particular species that are seen to have a high tourism value, such as representatives of ‘the big five’ and rare species of antelope. According to Bothma (2005: 97):

Failure to recognize the destructiveness of man’s attempts to shape the earth to human needs without taking cognizance of the ecological parameters that regulate natural ecosystems can have major consequences. Introducing exotic biota is but one example.

Many game farms in South Africa are stocking so-called “charismatic” species with the aim of increasing species diversity on their farms for ecotourism purposes and to maintain a competitive edge in this growing sector (Bothma, 2005; Langholz & Kerley, 2006). Cumming *et al.* (2015: 314) have argued that some of the practices that game farmers have adopted are “due in part to the ways of thinking or management practices that are still rooted in the internationally validated and powerful wilderness discourse”; in this regard these practices reflect “the broadscale nature of socioeconomic processes and ongoing globalization”.

Negative effects associated with the introduction of extralimital species include the possibility of the hybridisation of species, the displacement of the species naturally occurring in the area, the possibility that the exotic species cannot compete with indigenous species and do not survive, and the deterioration of the habitat (Cumming *et al.*, 2015). Farmers overstocking their farms by ignoring thresholds for the types and numbers of species that the farm can support are responsible for the fragmentation of habitats and degradation of their land (Cousins *et al.*, 2010).

A more complicated issue concerns the re-introduction of species that previously existed in an area before being wiped out by earlier processes of settlement and/or farming. In this regard Hoffman (2014) has argued that given that vegetation is not static and the vegetation of the Karoo has been changing over time, in response to different land uses as well as climatic changes, species that might once have occurred naturally in the region may now struggle to adapt, owing to vegetation changes that have occurred over time. In addressing these concerns, game farmers in the Ubuntu Local Municipality whom I interviewed noted there have been debates within the game sector with regards to these issues. For the most part, however, they blamed DEA and DAFF officials who are tasked with the control and monitoring of the sector

for any problem cases that might exist. They pointed to the requirement that before any “exotic” (or other) species can be brought onto a farm, there must be an EIA to determine the suitability of the proposal. Only after the assessment and allocation of permits by the relevant national and provincial departments can species be translocated.

Trophy hunting

As has been already noted in the discussion on breeding, hunting for recreation, trophy hunting in particular, is controversial. Although trophy hunting in South Africa is clearly profitable, there are polarised views on whether trophy hunting can be seen as supporting conservation or not (Doug, WRSA, interview, 2017). Those opposed to hunting point to its encouragement of the importation of extralimital species, as well as the elitist nature of hunting, the inequitable distribution of hunting revenues, inadequate involvement of local communities and unethical hunting practices, in particular canned hunting.

Critics of hunting on ethical grounds generally distinguish between sport hunting and hunting for subsistence. For them deliberately killing animals for sport and amusement is thought to be ethically different from hunting to live (du Toit, 2000); it is “a paradigmatic form of cruelty” (Cahoone, 2009: 71). The debate between pro- and anti-hunting forces is thus mired in moral judgments. Moral judgments, according to Scruton (2002: 544) invoke “fundamental concepts [...] of right and wrong, obligation and permission, virtue and vice, and all those concepts derive their sense from our habit of praising, blaming, applauding and condemning the actions, feelings, and characters of people”. Moral judgments with regard to animals presuppose that humans will act in the “right” way but what this means is filtered through “the benefits we receive from them”:

the first call of morality, therefore, when approaching the question of animal welfare is to decide on the nature of our duties towards animals. We are not responsible for, nor can we be blamed for, the welfare of all animals in the universe. Each of us has a sphere of responsibility, determined by the history of our relations with animals, and the benefits we receive from them (Scruton, 2002: 544).

Most game farmers I interviewed in the Ubuntu Local Municipality viewed their responsibilities to the animals on their farms through the filter of their knowledge of the value of their investments in the animals – thus, they argued, they had an interest in treating them responsibly.

A major issue in relation to hunting on game farms is what the principle of “fair chase” means in these settings (Butler, Teaschner, Ballard & Mcgee, 2005). Fair chase, as defined by Demmer (2013: 6) is the “ethical and sportsmanlike pursuit of game animals in a manner that does not give unfair advantage to the hunter”. “Unfair chase”, on the other hand, refers to a range of practices in which the hunter is perceived to have an unfair advantage over the prey, for instance through the use of contemporary firearm and bow technologies, hunting game within confined spaces and using prohibited methods such as traps, poison, fire and devices injecting an intoxicating or narcotic agents (Cahoone, 2009). One of the biggest criticisms of trophy hunting in South Africa is that it occurs within fenced camps which violates the principle of fair chase because the wildlife is not able to move freely as they are confined to easily predictable locations like water points, thus making them easy to kill (Pickhartz, 2014). Hunters who pay money to hunt game in fenced areas are accused of wanting guaranteed success, which calls into question the sincerity of the conservationist claims of the hunting industry (Michler, 2016).

A particularly contentious example of “unfair chase” is canned lion hunting, which as defined by Maclacrtly (2014: 24) is “any hunt where the target animal is unfairly prevented from escaping the hunter, either by physical constraints (fencing) or by mental constraints (hand-reared, habituated to humans)”. The game industry in South Africa has suffered a major reputational blow following reports of such hunting practices, according to Cadman (2009), when canned hunting came to light internationally in 1997, after the broadcast of the so called ‘Cook report’ which showcased shocking footage of lions being shot unethically in the Kruger National Park. The backlash led to the banning of imported lion trophies from South Africa in some countries and, according to Nel (2018), a decline in the number of international hunters visiting South Africa between 2011 and 2016. This in turn has led to calls for the observation of ethical hunting practises among the different wildlife and hunting organisations in South Africa (e.g. SA Jagters, Safari Club International, PHASA and the African Professional Hunters Association). While welcomed for being able to address “right and wrong within the realm of hunting activity” (van der Merwe, 2014b: 105) and to ensure “standardisation around professional codes of conduct” (Oberem & Oberem, 2016: 27), these developments are animated primarily by concerns to reduce public anger about perceived unethical hunting and protect the conservationist image of the game industry. According to Butler *et al.* (2005: 384), “once the public determines wildlife marketing to be a business

venture or one that ignores the perception of fair-chase, public acceptance may decline, allowing public interest and support for wildlife research and management programs to suffer”.

4.2.2 Social dimensions of game farming

Debates on the social impacts of game farming can be clustered around three overlapping clusters of issues: first, inequalities within the industry in terms of race and class, especially but not only in relation to land and land reform; second, farm evictions and the displacement of people from the countryside, and third, debates on the impact of game farming on local economies and employment opportunities more generally.

Race, class and land reform

Game farming in South Africa is deeply racialised and this has resulted in the industry being viewed as complicit in safeguarding the status quo of white domination of commercial farming, by legitimising the presence of white farmers on the land as nature conservationists (Ngubane & Brooks, 2013; Brandt & Spierenburg, 2014; Mkhize, 2014). (The gendered nature of the industry, in terms of the overwhelming dominance of men, is less commonly remarked.) In 2015, in a frequently quoted newspaper report, Mike Gcabo, a black entrepreneur who has broken into the game farming industry, noted that WRSA has only 15 black farmers out of the total of 1500 farm owners (AFP, 2015). However, he also emphasised that “this is not a white man’s industry, it’s an industry for anybody that has a belief that this business has got a future”. Though the whiteness of the industry appears entrenched, there are prominent black figures within the game farming industry who are doing very well. In addition to Gcabo, the President of the country, Cyril Ramaphosa, counts among the country’s leading game farm owners, along with Tebogo Mogashoa who became Vice President of the WRSA within a year of his entry into the game industry. In 2017 two black-owned game farms were ranked among its top 20 Brands by South African WRSA: Phala Phala Wildlife owned by Cyril Ramaphosa, which was ranked at number 11, and Babirwa Wildlife, owned by Tebogo Mogashoa, which was ranked at number 9 (*Spoorex News*, 2017b).

What this points to is the significance of class in accessing the industry as a game farm owner and entrepreneur. While the racial bias of game farming is very clear, personal wealth is also a major factor in positioning farmers within the industry. As pointed out by commercial farmers in the Ubuntu Local Municipality, being a white landowner does not automatically qualify you

for entry into the industry. The initial start-up capital excludes many from entering the market, particularly in the high-end game breeding and trophy hunting sub-sectors (Bezuidenhout, 2013). What this suggests is that there is also stratification within the industry itself.

Game auctions within the game industry have been flagged as platforms in which farmers flaunt their wealth. Zulu (2015) argues that game auctions are dominated by the “power play of money”, a point of view endorsed by one of the game farmers I interviewed in the Ubuntu Local Municipality in an interesting way. For him the key issue is class not race:

The game farming industry in South Africa is just a playground for rich men to flex their muscles and show who has the biggest bag of money. Game auctions have become a distinctive place in which status is created. Businessmen are buying the most expensive breeds of species just to show the rest of the world how rich they are. Millions of dollars are exchanged during these auctions and anyone who thinks that game farming is about race is very mistaken. Game farming is more of a class issue because only the rich can survive in that game. How can someone afford to pay 27 million for sable antelope, where does that money come from? In the long run, only a few high-end game farms will survive the competitive environment that has been created by the escalating prices of rare and quality gene pools (game farmer Vim, interview, 2017).

In 2012, Cyril Ramaphosa, then a private businessman, was at the receiving end of a media storm after bidding R19, 5 million for a buffalo cow and her 4-month old heifer calf at the Piet du Toit Game Breeders Auction in Limpopo (Mahlangu, 2012). While many critics saw this as evidence of an unseemly flaunting of wealth, some analysts welcomed this as an example of black success and “transformation”. According to Kamuti (2019: 208):

Cyril Ramaphosa’s case shows a trend involving the emergence of a new brand of black game farmer in the country, one useful to use as an example of the much-needed transformation in the sector.

Transformation in terms of more equitable access to farming land and opportunities, however, appears a long way off. As I discuss further in Chapter 6, the land question haunts the industry with many commercial farmers in the Ubuntu Local Municipality, both livestock and game, expressing fear and uncertainty during my interviews with them about what the future holds with regards to land. Farmers are particularly fearful that land reform in South Africa will follow the path of land invasions and the seizure of white-owned properties that unfolded in Zimbabwe in the early 2000s; while those land invasions happened in the name of social

justice, it is questionable how far social justice extended because ultimately the elite within Zimbabwe benefited the most and the poor were generally left still poorer.¹⁰

From my perspective, as I argue in chapters 8 and 9, “changing the colour of the face” of game farming will not erase the class issue but deracialising the sector is imperative if it is to contribute to sustainable development, holistically understood. At the same time, the challenges to black small-scale and emerging farmers within conventional livestock farming urgently need to be addressed, before their prospects within game farming can be seriously assessed. One of my main research questions concerns prospects for new black entrants into the game farming industry through land reform, given the nature of the industry and the capital costs involved. As discussed in Chapter 8, results from my conversations with small-scale farmers in the Ubuntu Local Municipality indicate that although a few of them have a growing awareness of the game industry, none of the farmers can envisage a future for themselves within it. To quote one of my respondents: ‘*Hoe kan ek aan myself dink as ’n wildboer wanneer ek dit skaars as ’n kleinveeboer maak?*’ [How can I think of myself as a game farmer when I can barely make it as a smallstock farmer?].

A further concern raised, *inter alia*, by Hamer, Kingwill & Timmermans (2003: 34) is that game farms are “taking too much land out of the market for small and emerging farmers”. There are several strands to this argument – one, that farms that are converted into game farms become too expensive for the state to acquire for land reform purposes through its willing-seller-willing-buyer approach and two, that the state does not target these farms because of their conservation credentials (Brooks, Spierenburg, Van Brakel, Kolk & Lukhozi, 2011; Brandt & Spierenburg, 2014; Snijders, 2014; Kamuti, 2015b). In recognition of the need to transform the racial profile of the wildlife industry, which the industry is beginning to acknowledge, an organisation representing the interests of black wildlife/game farmers, the National Emerging Game Ranchers Association (NEGRA), was launched in Johannesburg in 2017. The interim chairperson of the Association, Mike Gcabo, was quoted as saying:

black farmers are inadequately represented in the formal industry and government structures, therefore lacking a voice of its own. There is a need to present a united black and emerging voice within the industry and government as the industry itself lacks the will or is reluctant to self-transform (AgriFood Network, 2017).

¹⁰ An account of the land question in Zimbabwe and analyses of ‘fast-track’ land reform and its aftermath are beyond the scope of this dissertation. On this see, *inter alia*, Moyo (2000); Raftopolous & Mlambo (2009); Scoones, Marongwe, Mavedzenge, Mahenehene, Murimbarimba, Sukume.(2010); Matondi, (2012).

According to the Agrifood New Network (2017) this development in the game industry is a step in the right direction of transforming the industry, which can only be achieved when black ranchers or game farmers are participating in the conversation. NEGRA's mandate in this regard is:

1. to facilitate and advocate for easy access to and ownership of land for game farming,
 2. funding for infrastructure and capacity building,
 3. and development of non-restrictive laws and policies for inclusive growth of the sector
- (AgriFood News Network, 2017).

The Northern Cape provincial government has also begun to look at the issue of support for black emerging farmers wanting to break into the game farming industry. In an interview with a Biodiversity Officer in the Department of Environment and Nature Conservation in 2016, I was told that the Department was launching a Biodiversity Economy project towards Transformation of the Wildlife Industry (interview, 2016; see also Appendix 8). This project was aimed at giving management and technical support to black emerging farmers in a bid to transform the racial profile of the industry; the Department was also helping emerging black farmers entering the game industry with extension support and donations of game. As of 2017, five farms managed by black game farmers in the Northern Cape had been registered with the Department (Department of Environment and Nature Conservation, 2017).

These new developments in the game farming industry are signalling that there is a growing awareness that game farming cannot continue as a whites-only industry and that there is a need to support black entrants through land reform and other forms of government support. However, as the above discussion and my engagement with key informants in and out of the Department of Environment and Nature Conservation has reaffirmed, the start-up capital required in game farming means that a small minority of black farmers are privileged above others.

Evictions of farm dwellers, farm workers and access to game farms

Beyond the issue of the profile of the farmers and landowners, there is also a major debate on the question of farm evictions and the intensification of the enclosure of the countryside that game farms, with their very high fences, represent. As described in section 4.2.1 the South African wildlife industry has promoted itself as an industry that fits within the vision of a 'green

economy' and is contributing to equitable socio-economic development, while supporting South Africa's international commitments to meeting conservation targets (Taylor *et al.*, 2016). At a 'Green economy summit' held in May 2010, Dr. Gert Dry, then WRSA president, addressed these issues, indicating also his familiarity with the international discourse around sustainable development:

Given South Africa's socio-political landscape, it is an undisputed reality that commercial wildlife ranching is about appropriate land-use and rural development; it is less about animals *per se*, not a white affluence issue, not conservation at-all-costs issue, but about economic sustainability with a powerful green footprint. It is a land-use option that is ecologically appropriate, economically sustainable, politically sensitive, and finally, socially just (Dry, 2010).

In this address Dry was not shy to acknowledge the profit motives of the game farming industry but emphasised the benefits that could be achieved through the industry, given the indisputable evidence that 80 % of South Africa is "marginal" land in terms of crop production and intensive use. However, despite this positive message from industry leaders, game farming's role in the transformation of the rural economy is mired in concerns around its role in perpetuating white dominance over land, as described above, and disregarding the rights of the people already living as workers and farm dwellers on the land being transformed into game farms (Fraser, 2007; Brandt & Spierenburg, 2014; Mkhize, 2014). Here the high fences around game farms are seen as not only about the management of animals but also the control of people, black people in particular, thus a conscious mechanism for achieving selective inclusion and exclusion, with profound consequences for land access and the rights and livelihoods of farm workers and their families.

In a study published in 2005 Luck argued that on game farms farm dwellers are seen as a threat to the security of the landowners (from poaching and associated activities) while the residents themselves are seen as threatened by dangerous animals (2005: 87). Furthermore, the marketing of game farms as offering tourists an "African safari" experience is premised on the presentation of these farms as "pristine" spaces of nature and (well-maintained) wilderness, an image which is undermined by the presence of farm worker communities. This has led to the emptying of game farms of many of the workers and their families who previously stayed on the farms, resulting not only in their loss of livelihoods but also of their homes and sense of belonging, as many families would have been living on the farms for generations (Mkhize, 2012; Brandt & Spierenburg, 2014; Spierenburg & Brooks, 2014).

Against this background Brandt & Spierenburg (2014: 220) have argued that game farms should be viewed as “economically and politically contested spaces” for farmers and farm workers/ farm dwellers for three reasons:

1. Whereas landowners present the displacement of farm workers from game farms as the unintended by-product of a changing rural economy, the creation of ‘pristine wilderness’ seems designed to empty the land of farm dwellers who may lay claim to the land.
2. Game farms further disrupt the historically developed links between farm dwellers and farms, denying them their rights of residence and base for multiple livelihood strategies.
3. The conversion to game farming thus deepens farm dwellers’ experiences of dispossession and challenges their sense of belonging.

They argue that farm conversions from agriculture or livestock farming to wildlife ranching are reconfiguring social relations in the countryside in a manner that puts into question the possibilities for transforming the countryside into a more egalitarian and just space (2014: 220). Here the environmental and social dimensions of sustainable development/agriculture can be seen as clearly entwined. Pinosof & Sanhaji (2009: 4-6) have expressed concerns about the development of ecotourism across the world as responsible for the displacement of rural communities and their rights to land. According to Haywood (2007:202), attempts to (re)create “pristine environments” through the “re-wilding” of land, “however ecologically desirable, can sadly also be perceived as perpetuating the colonial project by other means”:

In addition to the socially contentious thwarting of historically disadvantaged people’s desire for farmland, others may see re-wilding as an attempt to erase the visible history of occupation. The land reverts to indigenous bush, indigenous species are re-introduced, and the colonial farmer’s visible presence diminishes as the former farm disappears. Also, out of sight are the indigenous people, who are either excluded by game fences and economics or become semi-invisible servants working in lodges.

In the context of South Africa, where indigenous people were dispossessed of their rights to the land to advance the needs of first the colonial and then the apartheid project, the displacement of farm workers and farm dwellers can be seen as a remaking of this history (Fraser, 2007; Brandt, 2013). At the same time, the threat of land reform is reported to have spearheaded the eviction of farm workers and farm dwellers by many farmers, to pre-empt any potential land claims as well as claims around tenure rights after the promulgation of the Land Tenants Act (Act 3) of 1996 and the Extension of Security of Tenure Act 9Act 62) of 1997,

both of which were aimed at strengthening and formalising the informal rights to land of farm workers and farm dwellers (Atkinson, 2007a). Analysts such as Spierenburg & Brooks (2014) and Kamuti (2015) analyse the shift to game farming amongst commercial farmers in South Africa as motivated by the perception that game farms are less likely to be subject to land claims than regular livestock farms.

However, what does need to be considered is that, as noted in Chapter 2, farm evictions predate both land reform and the accelerated switch to game farming in post-apartheid South Africa. Between the years 1985-1998, the commercial farming sector already shed some 140,000 regular jobs (for an estimated 20 % decline in the total employment figure), because of a shift away from reliance on the fulltime employment of permanent workers in commercial agriculture, to increasing reliance on the use of casual and/or seasonal employment (Wegerif *et al.*, 2005; Statistics South Africa, 2000). Many analysts argue that a range of economic factors are primarily responsible for this change, over and above the political considerations described above; these include the deregulation of agriculture as government policies and priorities shifted and farmers attempted to respond to the diversification of the economy, fluctuating global commodity prices and rising production costs. Environmental factors such as climate change and land degradation are also seen as responsible for farm evictions, as these pressures have had significant knock-on effects on production levels on commercial farms in South Africa (Child, 1988; Conradie, Piesse, Vink & Winter, 2002; Genis, 2012; Otieno & Muchapondwa, 2016; Zungu, 2017). A further countervailing argument, discussed in the next section, is that while game farming is less labour-intensive in terms of general farm work, it is creating other employment opportunities that are offsetting the traditional farm jobs it is shedding.

The commercial farmers I interviewed in the Ubuntu Local Municipality (both livestock and game) stressed the economic and environmental considerations driving their decisions around their workforce, as they have restructured their production systems in order to cut their costs in responding to years of economic stress and consecutive years of drought. One of the strategies has been to rely more on casual labour and reduce the number of permanent workers they employ, which has resulted in an increase in the off-farm farm worker population in their area. (See chapter 6.) As argued by Lukhozi (2008), farmers restructure the production activities on their farms primarily to serve their interests – which in many cases can have detrimental consequences for farm workers and farm dwellers.

Employment

Despite the significant growth of the game sector described in section 4.1, the contribution of the wildlife ranching sector towards local economies remains a contentious issue, as the above discussion has clearly indicated (Child *et al.*, 2012). Apart from the issue of farm-worker jobs discussed above, the development of ecotourism within private ranching has also been criticised, as already noted, for not being based on sustainable tourism principles, with the conservation claims of the industry mere marketing gimmicks that do not advance conservation or broader community development. Pinosof & Sanhaji (2009: 4-6) have, for example, argued that most foreign visitors to game lodges refuse to compromise on their expectations of luxury and therefore the resources of local communities are drained into making the paying customer comfortable, for instance through excessive water consumption (because of swimming pools, laundry, irrigated landscaping etc.). Furthermore, according to a key informant I interviewed in an NGO dealing with farm-worker rights, in order to gain or retain their competitive edge in the industry and ensure their profitability, given the continued expansion of game farms in South Africa, farmers are guilty of exploiting the workers on their farms, through low wages and long hours of work (Lizzy, interview, 2018).

Evaluating the competing arguments is difficult, hence the need for more case studies and region-specific research. Notwithstanding the documented evidence of violations of farm-worker rights on commercial farms in South Africa, the game farming sector argues that the diversified activities of the industry across all the sub-sectors listed in section 4.1 are producing more diversified employment opportunities both on and off the farms. Therefore, overall, game farms are supporting more employment opportunities, with better salaries, and this is having a direct and positive impact on the livelihoods of neighbouring communities (Sims-Castley *et al.*, 2005; Langholz & Kerley, 2006). In this regard research done by Langholz & Kerley (2006), NAMC (2006), Cousins *et al.* (2008), Saayman, van der Merwe & Rossouw (2011), Child, Musengezi, Parent & Child (2012), van der Merwe (2014) and Taylor *et al.* (2016), amongst others, indicates that although the number of workers employed as farm labourers has decreased, the wildlife industry has created more employment opportunities than it has ended, through its on-farm activities as well as the multiplier effects associated with ecotourism, breeding, translocation, game capturing, hunting etc.; these studies also argue that there is evidence to show that on game farms conditions with regard to staff training, employee benefits, living conditions and salaries have improved.

On the other hand, the research undertaken by social analysts such as Brooks, Spierenburg, Van Brakel, Kolk & Lukhozi (2011), Mkhize (2012) and Zulu (2015) has found little evidence of employment generation on game farms. Furthermore, even where employment has been generated it remains steeped in uneven power relations, while most of the “properly remunerated jobs” that local people get “would inevitably be of a menial nature (cleaning, road maintenance, etc)” (Brooks *et al.*, 2011: 271). Further, sub-sectors such as hunting and breeding are less labour-intensive than other forms of farming and there has, therefore, been a net loss of employment in comparison to the agricultural enterprises that they have replaced (Andrew, Brandt, Spierenburg, Mkhize & Snijders, 2013). Thus scholars like Brandt (2013) and Zungu (2017) argue that there has been no real change in the distribution of wealth between landowners and farm workers in the game farming industry.

Using Cradock as a case study, Zungu (2017: 182) also argues that far from stimulating the development of more diversified rural economies, the establishment of game farms has resulted in a marked decline in off-farm commercial activities associated with livestock farming, such as butcheries, windmill repair workshops and farm equipment shops. Rather, the concentration of trophy hunting in Cradock has led to “a type of tourism which is utterly isolated from the town and generates no off-farm activities in the town”. In the case of Ubuntu Local Municipality, however, my findings indicate a more positive picture. Here the Municipal Manager reports that the growth of game farming has increased traffic into the surrounding towns and has also increased economic activities within these towns, especially in Victoria West – this is related to petrol service stations, curio and biltong shops, bed-and-breakfast accommodation in the town, and the like (interview, 2016). Furthermore, local game auctions and the presence of game farms in the municipality have seen a revitalisation of local crafts and cultural activities, through the hiring of local dance and singing groups to entertain guests on farms; this has also allowed some social exchange between local residents and international tourists which the Municipal Manager regarded as socially positive.

4.3 Conclusion

This chapter has reviewed the development of the game farming industry nationally, paying attention to its defining characteristics and participants’ and analysts’ knowledge and understandings of it. This chapter shows how the game farming industry is a commercial

enterprise that owes its significant growth in part to its contribution to the conservation of iconic species and claims around its alignment with biodiversity more generally, as well as to its protection of landscapes in farming areas that have not been subjected to extensive cultivation, infrastructural development and/or settlement. The attractiveness of the industry for landowners has, as the above discussion makes clear, been motivated primarily by its potentially high profitability; however, while this has made it attractive for those with the necessary capital resources to enter the industry, the high entry-level costs also make game farming prohibitively expensive for those who might be interested but lack the financial resources and/or backing to do so. In line with this, this chapter has shown that the industry should be viewed in terms of not only its racial bias, which in South Africa has shifted slightly in recent decades towards the inclusion of some black individuals, but also its class bias. As reflected on further in Chapter 8, black farmers who have gained access to the industry are those with financial resources. At the same time, stratification within the industry also points to less exclusive examples of game farming enterprises, particularly those associated with plains game and less high-end “safari” tourism.

Though the contribution of game farming to the national economy measured in terms of GDP is generally not contested, and this has been viewed by its advocates as justifying the growth and national significance of the sector, its environmental and social impacts are more contested issues. This chapter has shown how the environmental costs and benefits depend on the specific sub-sector and the way it is managed – though the game industry has made a particular contribution to the preservation of certain species, the industry is also associated with excessive consumption of resources and unethical behavior, especially with regard to certain breeding and hunting practices that are not aligned with the idea of respecting planetary boundaries or limits as central to sustainable development. In terms of social sustainability the picture is also mixed, with evidence that game farming is further entrenching white dominance over land and resources which impedes corrective measures like land reform and threatens the livelihoods of farm workers and dwellers who are no longer employed or employable within the industry. At the same time, there is also evidence that game farming is making a contribution to local economies, including through new employment opportunities and district-level spinoffs in some if not all cases.

Otieno (2016) has argued that without further research it is premature to conclude that the changing dynamics of employment in areas with a growing wildlife sector can be attributed to game farming. In similar vein Child *et al.* (2012) have proposed that the reason for continued

controversy about the impact of the wildlife sector may well be because appropriate frameworks have not been developed for comparing the economic, ecological and social impacts of the wildlife ranching sector in South Africa with that of other land use options. The implications of this are that without such comparative studies, the controversies around the contribution of game farming to sustainable development will continue. This has been an important consideration in the framing of my dissertation as a case study of farmers' motivations, experiences and understandings of their changing environment in one under-researched and very particular agro-ecological area within the Northern Cape, the history of which is explored in the next chapter.

Chapter 5: Land, agrarian and environmental change in the Northern Cape: A historical perspective

This chapter provides a history of the Northern Cape, with a view to showing how its contemporary agricultural system has emerged. As emphasised by Mathevet, Peluso, Couespel & Robbins (2015: 1), “history is not only a hallmark of political ecology but a way of understanding ecological changes that can help advance biodiversity conservation science and policy”. A study of past human-environmental relations helps not only in understanding current policies around resource use, allocation and management but also in contextualising the fierceness of the debates around game farming in South Africa.

The chapter is divided into two main sections. Section 1 provides an overview of the history of the Northern Cape from the mid-17th to the late 20th century, before South Africa’s transition to democracy in 1994; it is prefaced with a brief account of the region’s pre-colonial history. This section, which relies heavily on the work of historian Nigel Penn (2005), reviews the history of the contestations over scarce resources, including water, grazing lands and game between Dutch *trekboer*¹¹ settlers and indigenous Khoisan societies into the 19th century, when settled commercial farming became the dominant land use. These struggles impacted profoundly on biodiversity in the Karoo and were critical in shaping the starkly unequal patterns of land ownership that persist in the region today. This section also looks at agrarian and demographic change in the Northern Cape/Karoo in the course of the 20th century. Section 2 provides a brief overview of developments around commercial agriculture, land reform and environmental change in the Northern Cape since 1994. This chapter thus provides important contextual background for my discussion of contemporary dynamics around farming in the Ubuntu Local Municipality in chapters 6 to 8.

5.1 The history of the Northern Cape to approximately 1994

5.1.1 Pre-colonial history

¹¹ Nomadic pastoralists descended from mostly Dutch colonists, French Huguenots and German Protestants in the Cape Colony

The precolonial history of the Northern Cape is reflected in a rich archaeological heritage that shows evidence of the presence of the hominid ancestors of humans reaching back 2 million years (Walker, Milton, O'Connor, Maguire & Dean, 2018: 161). Stone tools from the Late Stone Age (between 40,000 and 20,000 years ago) are associated with hunter-gatherers who are generally accepted as the ancestors of the Khoisan populations who were living in the region at the advent of European colonialism in the mid-17th century (d'Errico *et al.*, 2012). However, as pointed out by Morris (2018: 183):

A significant feature in the archaeological record of the Karoo is that human inhabitation of the region has not been continuous, with shifting paleo-environmental conditions being a key factor to which human ancestors were responding. Pulses of occupation and apparent abandonment, reflected by the relative prevalence of stone tool occurrences of differing age, correspond with periods of environmental stress and amelioration.

As this quotation makes clear, the arid environment of the Karoo has significantly shaped the socio-economic organisation of the different groups who have lived in this region over time.

Archaeological records indicate that prior to the establishment of the Dutch settlement at the Cape in the mid-17th century, at least two distinct groups inhabited the area: hunter-gatherers known collectively as the San (who were derided as 'Bushmen' by the Dutch colonists) and pastoralists¹² known collectively as the Khoikhoi, also called the Khoekhoen (whom the Dutch colonists referred to by the derogatory term 'Hottentots') (Oliver & Oliver, 2017). It is generally thought by historians that the Khoikhoi introduced small livestock to the Northern and Western Cape some 2000 years ago (Elphick, 1972, 1985; Smith, 1992). The name Karoo is of Khoikhoi origin and means 'dry, hard' (Henschel *et al.*, 2018).

The San people of southern Africa were divided into distinct groups, including the |Xam (in the Karoo), N||nǀe (in the southern Kalahari), and ||Xegwi (in what was known in colonial times as the Transvaal) (Schlebusch, Prins, Lombard, Jakobsson & Soodyall, 2016). Hunter-gatherer communities were highly mobile and flexible, their way of life influenced by the arid to semi-arid environments in which they were living at the advent of colonialism (Kusimba, 2005). The pastoral Khoikhoi tribes were rich in sheep; they also had some cattle and practiced seasonal transhumance. Though there are debates around their origins, some historians have argued that

¹² Pastoralism, as defined by Dong (2016), is the nomadic and transhumant rearing of domesticated animals through the exploitation of dispersed pastures and water resources.

they probably arrived in present-day South Africa from the Kalahari, on the borderlands between present-day Botswana and Namibia (Giliome & Mbenga, 2007; Oliver & Oliver, 2017).

As argued by Penn (1995: 43-44), “Khoikhoi and San are not timeless ahistorical categories but historical categories and social constructions”. While these categories have been used to distinguish between the hunter-gatherer and pastoralist modes of existence in pre-colonial times, in the colonial context the Khoikhoi and San “lifeways” were dramatically altered by the arrival of European colonists at the Cape Colony in the middle of the 17th century. Scholars like Elphick (1972), Marks (1972), and Fourie & Green (2015) have argued that the impact of colonialism blurred the lines between Khoikhoi and San people as distinct groups, thereby legitimising the use of the collective term ‘Khoisan’ to describe them. As pointed out by Penn, (1995: 46), the term Khoisan “was used when the identity of indigenous societies became uncertain or when it became evident that both Khoikhoi and San were linked together”. However, according to Penn (1995), historical and archaeological records show a distinctive historical presence of both hunter-gatherer and pastoralist societies in what was to become the Cape Colony at the start of the colonial period.

5.1.2 *Trekboers* and the northern frontier to the mid-19th century

Frontiers, according to Rasmussen & Lund (2018: 2), “do not exist as a function of geography per se but are brought about because new possibilities of resource extraction and use prompt new and competing claims to authority, legitimacy, and access”. Thus:

Frontiers are linked to processes of land control and are actively created through social and political struggles. Frontiers are the discursive, political, and physical operations that classify space and resources as ‘vacant’, ‘free’, ‘ungoverned’, ‘natural’, or ‘uninhabited’. This happens by expunging existing systems of right and use, and often by the dislocation of previous users.

In his book *The Forgotten Frontier*, on the history of the Northern Cape, Nigel Penn (2005) discusses the idea of “open” and “closing” frontiers. An open frontier zone is “one where there is a semblance of a balance of power between the societies competing for land resources while in a ‘closing’ frontier the balance of power has tipped in favour of one of the societies” (Penn, 2005: 31). In colonial southern Africa, the eastern Cape frontier was a typical example of a closing frontier, because of its greater economic potential and higher population density

compared to the Northern Cape frontier – here the entry of *trekboers* into the Sneeeberg-Fish River Districts of the Eastern Cape in the 1770s led rapidly to a struggle between colonists, Xhosa and the Khoisan for land, that resulted in nine wars in the space of a hundred years (from 1779 to 1878) (Penn, 2005:12). Thus, the Eastern Cape frontier did not enjoy the same degree of openness that characterised the Northern Cape frontier, which was able to retain its openness much longer, mainly because of its vastness and the marginal status of the land from a productionist point of view.

Twenty-five years after the arrival of the Dutch East India Company (DEIC) at Table Bay in 1652, a cattle and hunting frontier had been established between the company and the indigenous Khoisan people of the surrounding area. Contact between the Khoikhoi pastoralists and Europeans was established through livestock trading which included the Khoikhoi fat-tailed sheep. The knowledge acquired by the colonists from their dealings with the Khoikhoi, including that their fat-tailed sheep were well adapted to the local environment, was to become a valuable resource in their expansion into the interior of the Cape Colony (Ross, 2010). As argued by (Penn, 1995), pastoral production became the major occupation of all the different societies that emerged in the Northern Cape frontier zone (*trekboers*, ‘Basters’¹³ and Khoikhoi), with the exception of the hunter-gatherer San. Furthermore, “it was principally through the dynamics of pastoralism that they absorbed or transformed each other’s culture whilst exploiting, serving or co-operating with each other” (Penn, 1995: 32).

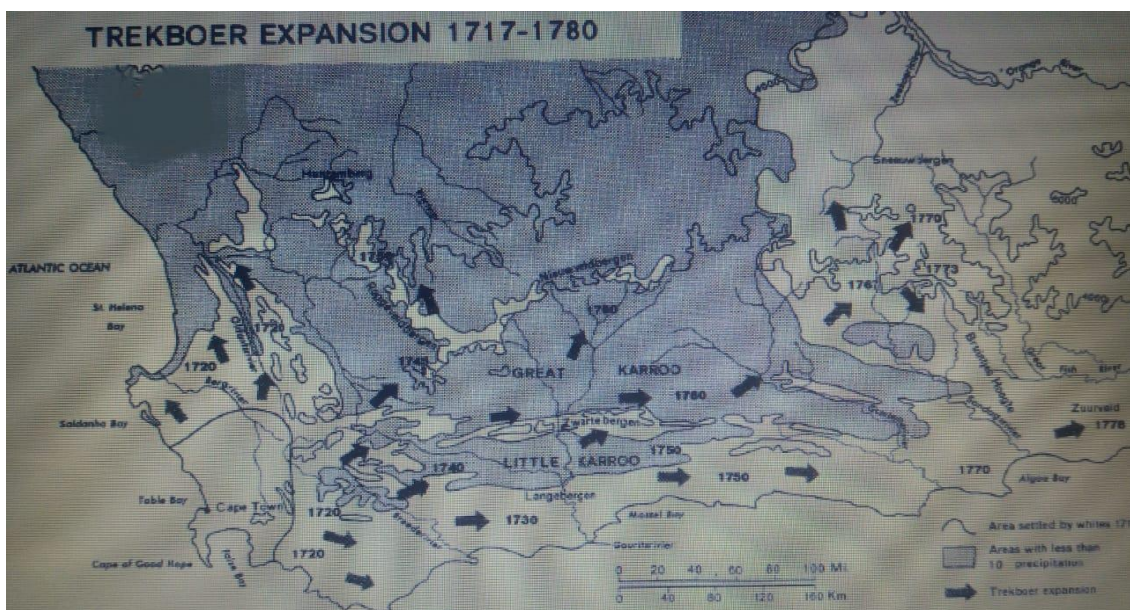
In the late 17th century the DEIC Company permitted the expansion of the colonists’ initial settlement to the areas of Stellenbosch, Drakenstein, Paarl, Franschhoek, Tygerberg and Wagenmakers Valley, by granting freehold lands to so-called ‘Free Burghers’¹⁴ (Penn, 1995; du Plessis, 1998). From these beginnings European settlers began moving into the northern interior, an area unsuited to crop farming. The growth in livestock farming amongst the Free Burghers was, according to Smuts (2012), facilitated by several factors, including DEIC policies that prohibited direct trade between farmers and foreign ships, the market for meat, the lower capital costs of livestock farming and the availability of land. As pointed out by Penn (2005: 35), the expansion of the colonial frontier was by and large facilitated by the *trekboers* in their quest for better land, water and grazing for their livestock.

¹³ Basters [Dutch: *Bastaards*] was a term used to refer to people of mixed racial and cultural origins emanating from the “processes of interaction and acculturation in the frontier zone” (Penn, 2005).

¹⁴ Free burghers were early European settlers at the Cape, who were allowed to become farmers, owning their own land and implements (Groenwald, 2012).

The natural increase in the population at the Cape also prompted this expansion (Boshoff & Fourie, 2010), as did the decision by the DEIC to grant burghers grazing licenses in 1703, whereby they gained access to pieces of grazing land for a period of two to three years (Smuts, 2012). This expansion gained momentum when the Khoikhoi, who had been putting up some resistance to settler encroachment on their lands, were nearly wiped out by smallpox in the early 18th century, a disease introduced by the new colonists against which the indigenous people had no immunity (Smith, 2014). In the end, notes Penn (1995: 76), the Khoikhoi had only two options: either to become servants of the *trekboers*, acting as their trackers and “tending the animals of their masters”, or to remain independent by moving further into the drier regions of the Cape Colony. The assimilation of the Khoikhoi on the bottom rungs of colonial society opened the way for *trekboers* to move further inland, to the base of the Karoo escarpment around the Roggeveld and Nieuweveld mountains (van der Merwe & Beck, 1995); from there they began moving into the Hantam and Roggeveld from the 1740s (Figure 5.1).

Figure 5.1: Map of the early Cape Colony showing time frames for settler expansion from Cape Town during the 18th century



(Source: Guelke & Sell, 1992 in Smuts (2012))

As the new settlers expanded into the interior, they became increasingly isolated from the colonial state, markets and each other. It was in this isolation that settlers evolved a new way of life, that of the “far wandering vee-Boer” or *trekboer* (Legassick, 1972) who “practised the transhumant pastoralism they copied from their Khoikhoi servants” (Walker *et al*, 2018: 163), their movements organised around seasonal variations in grazing and the availability of water. In this arid area control over water points was especially important. According to Penn (1995:

36-37), the *trekboers* achieved this by staking claims on loan farms that were strategically located in relation to crucial resources, like water points and good veld. Although loan farms in the Roggeveld were mostly registered under one owner, there was a spirit of communal sharing of resources (grazing, water, etc) for as long as the available resources allowed it (McKenna, 2011). However, as the population grew and pressure on the grazing resources of the veld mounted, competition for property increased and ideas of private ownership became more entrenched and exclusive (Penn, 1995).

By 1760, *trekboers* had reached the Kamiesberg region in the north-western Cape. At this stage further expansion was being made more difficult due to resistance by San hunter-gatherer communities (Smuts, 2012). The violent clashes between the *trekboers* and San communities in the Cape interior were fuelled by competition for limited resources; in response, to maintain the upper hand, the *trekboers* established the commando system which was “ostensibly a military institution designed for the defence of the *trekboer* society and for the destruction of its foes” (Penn, 2005: 108). The growing competition for natural resources in the Cape interior had reached a crisis point by the end of the 1770s. As pointed out by Penn (1995: 38), the rate at which the *trekboers* exterminated game as they moved into the interior of the Cape altered the San way of life, leaving the latter with no options but to hunt *trekboers*’ livestock with “fatal consequences” for their survival as a coherent society. While the colonists had the advantage of their guns and commando-style tactics, the San were not easily defeated because they were mobile and had the tactical advantage of knowing the terrain and how to live off it intimately. The dynamics of violence on the frontier changed in the early 19th century, however, after the British took control of the Cape Colony from the DEIC (McDonald, 2015) and began to impose stronger governmental oversight over the Northern Cape.

In this time hunting of game was used by the *trekboers* as a way to clear the land of competitors for grazing, as a source of food, to protect their domestic animals, and as a source of income (Beinart, 2003), with profound consequences for the biodiversity of the Karoo. In the years of expansion between 1826-1834, there was a significant growth in the trading of ivory, hides, and guns in the Cape interior. In this time several settlers gained a name for themselves as big game hunters, including George Rennie (a famous lion hunter), Carey Hobson, Edward Driver, Thomas, and Henry Hartley and John Thackwray (who is reputed to have shot 400 elephants in a single year) (Hockly, 1957).

As the Khoisan resistance that had stalled the expansion of the colonists gave way, the British government favoured a policy of assimilation in which they were encouraged to become servants and farm labourers on the white-owned farms (McDonald, 2015). By promoting missionary activity among them, the British aimed to “tame” and assimilate the indigenous people into their economy in various forms of servitude (Chiswick, 2009). Missionaries from the London Missionary Society arrived at the Cape at the end of March 1799, the first mission to the San being established at Blydevooruitzicht Fontein, in present-day Namakwa District Municipality. The establishment of missionary centres in the Northern Cape speeded up the process of cultural exchange in what became the nucleus of the future coloured reserves that were proclaimed in the north-east of the Northern Cape in 1909, in terms of the Mission Stations and Communal Reserves Act of the Cape (Richtersveld, Steinkopf, Concordia, Komaggas, Leliefontein, and Pella) (Rohde, Hoffman & Allsopp, 2003). In reflecting on this history Wisborg notes (2006: 167) that thus “a history of conquest and genocide was made, a history that created a new meaning of land as an exclusive possession rather than a shared space”.

5.1.3 Settler farming in the area of Victoria West in the mid-19th century

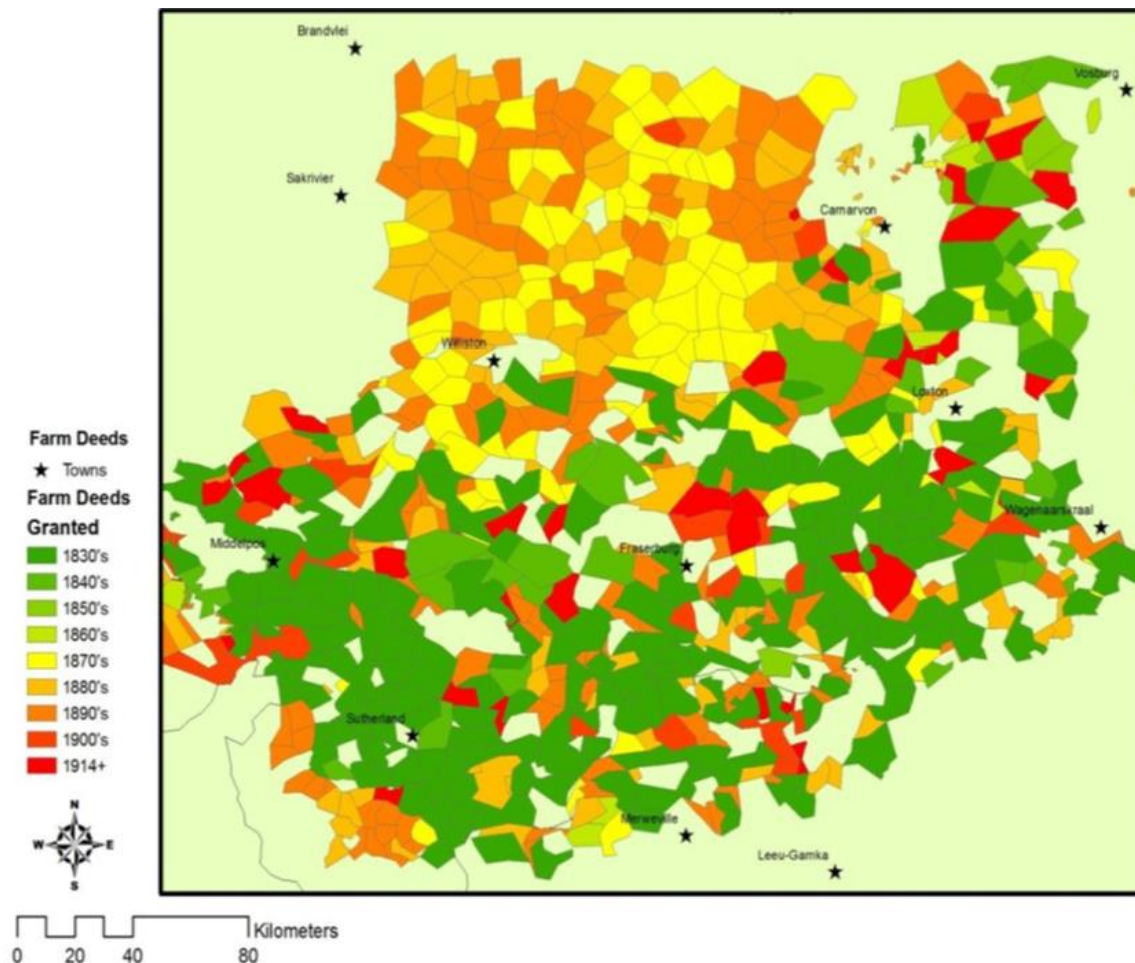
By the 1830s the growing awareness of the value of private property rights in areas with potential for livestock production was leading to the formalisation of the earlier loan farm system, through the issuing of title deeds. Archival work by Smuts (2012) shows the chronology of the granting of farm title deeds in the Upper Karoo, north of Beaufort West, from the 1830s, the area where my research site is located. (See figure 5.2 below.) What this shows is that most of the earliest title deeds for commercial farms in the Loxton and Wagenaarskraal area, now falling in the Ubuntu Local Municipality, were issued in the 1830s and 1840s. Those in Carnarvon to the north followed later, from the 1870s.

In the words of John Noble, the Clerk of the House of Assembly in the Cape of Good Hope between 1865 – 1897, the land around Victoria West was initially regarded as “desert”, “left to the free occupation of migratory squatters and their flocks and wandering Bushmen and Koronas living along the Orange river, hunting antelope and ostriches in the open plains extending on each side” (Noble, 1875: 85). However, from the mid-19th century this perception began to change as the “wastelands” around Beaufort West, Loxton, Victoria West, and Graaff-

Reinet were found to be excellent grazing land for sheep, thus areas where quality livestock farming could take place at scale. In Noble's words:

wherever the wastelands have been surveyed they have been readily taken up and occupied and a vast extent from which it was supposed at one time that no profitable return could be derived, is now utilized and highly valued as excellent grazing ground (Noble, 1875).

Figure 5.2: The distribution of farm title deeds from the 1830s



(Source: Smuts, 2012: 49)

From the 1840s the development of merino wool farming took off in this area. This was accompanied by the development of small towns. As Beinart (2003) points out, the introduction of the merino sheep into the Cape interior from the mid-19th century connected the economy of the Northern Cape interior with the international market. The development of small towns in the area from the middle of the 19th century was linked to the expansion of the farming economy. The town of Victoria West was established around a Dutch Reformed church that was established in 1843. (See Fig 5.3 below). While farmers provided Karoo towns with food

and farm products, the towns supplied farmers with the business and administrative services they required for the commercial functioning of their farms. As highlighted by Nel & Hill (2008), there were close links between the small Karoo towns and their adjacent farming areas. The towns were also important locations of community interaction and formal and informal social services, including those provided through membership of church congregations.

Figure 5.3: Victoria West in 1860



(Source: Victoria West Museum)

5.1.4 The development of commercial agriculture from the mid-19th century

In the latter half of the 19th century the new Karoo towns prospered with the expanding agrarian economy (Zungu, 2017; Beinart 2018). According to historian Eric Rosenthal (1959), by 1859 the number of farms occupied in Victoria West in the 1840s had risen to 149 and by 1875 they totalled 350. The farms were large (although not generally as large as today), ranging from 4,000 to as many as 30,000 morgens (approximately 3,500 ha. to 25,700 ha.);¹⁵ their size was attributable mostly to the distances between the permanent water supplies farmers needed for their livestock, at that stage mainly in the form of springs and dams (Rosenthal, 1959).

However, even in this time of relative prosperity, signs of overgrazing were being reported in the Cape Colony. According to Noble in 1875 “here as in other places, it is said, overstocking is beginning to tell upon its condition, the sweet grasses and shrubs which were once high and plentiful being dwarfed or giving place” (Noble, 1875: 140). The destructive impact of settled farming on the environment was also strongly evident in the dwindling numbers of wildlife. The hunting of wildlife for sport rather than for food in southern Africa can be traced back to

¹⁵ A morgen was a Dutch measure of land area; one morgen is equal to about 0.8 ha.

the arrival of the Dutch settlers at the Cape in 1652. In 1702, only 50 years after the arrival of the first European settlers, the last elephant in the vicinity of Cape Town was shot. By the end of the 1800s the true quagga and the Cape lion were already extinct (McCracken, 2008). In 1908 Selous (1908: 208) noted that *boers*, through their indiscriminate hunting, had brought to extinction or close to extinction many species of animals that had roamed the land in “seemingly inexhaustible numbers”. He further noted how, as a result of human greed around profiteering, coupled with “the old love of hunting, and both being unrestrained by legislation, the speedy extermination of any beast or bird which has any market value must necessarily follow” (ibid: 208). Even without hunting, the impact of settled farming on the biodiversity of the Karoo was enormous. “Early settled farming involved heavy stocking of grazing lands, beyond the carrying capacity” of the land – a concept that, Walker *et al.* note, “had not yet come into use” (2018b: 163). A number of animal species became locally extinct in the Northern Cape, including wild dog, lion and brown hyaena, while several plant species were driven to the brink of extinction, including wild ryegrass and the *sterboom* (ibid).

In this time the face of farming was profoundly influenced by the introduction of new technologies. These technologies included wire fences (first erected in 1877) and drilling systems that could tap into the Karoo’s underground water resources (also first introduced in the late 1870s (Beinart, 2003: 171)), most prominently that of the windpump (see Archer, 2000). In 1880, the *Victoria West Messenger*¹⁶ (a local newspaper that began publishing in 1876) published an article that argued for wide-scale fencing in the area to protect the veld and erase the competition for fodder from the invasion of springbok herds. The proclamation of a Fencing Act in Victoria West and Richmond occurred in 1895, and according to Roche (2004: 176) the “transformation in the nature of springbok populations from nomadic to sedentary was an irrevocable one that was to follow in the wake of fencing's advance across the Colony”.

Significantly, access to a steady (underground) water supply through windmill technology now made settled livestock farming possible. Fencing also enabled farmers to assert better control over predators and stock thieves, thereby increasing their livestock numbers (Brandt, 2013). These new developments promoted the growth of more market-oriented farming systems in the Karoo, which in turn had major implications for the larger social-ecological system (Beinart, 2018a).

¹⁶ *Victoria West Messenger*, 4 October 1880.

Sheep farming dominated the colony's exports from the 1840s (Ross, 1986). According to Beinart (2003: 9, 11), the number of merino sheep in the Cape leaped from about 5 million in 1855 to some 10 million in 1875, while wool yields increased steadily from an average of 2 pounds/ sheep in the 1850s to 7 pounds/sheep in the 1930s. The increased financialization from the booming market promoted the improvement of roads and transportation, which also encouraged the further spread of market-oriented livestock farming, as opposed to more subsistence-oriented pastoralism (Ross, 1986).

Through the first six decades of the 19th century struggles over arable and grazing lands lay at the heart of the conflicts over natural resources in southern Africa. However, the discovery of diamonds in 1867 in Griqualand West opened up a new struggle for the resources of the region (McKenna, 2011). This also led to a shift in the focus of farming as new internal markets for meat opened up, with the mass exodus of people of all races to the Kimberley diamond fields, seduced by the promises of wealth that diamonds offered. This discovery of diamonds brought a wave of fortune to Victoria West (see fig 5.3), well documented in archival data in the Victoria West Museum, which gave further impetus to its economic development. The town lay directly on the wagon trail from Cape Town to Hopetown and later to Kimberly and served as a staging post on the long road from the coast to the diamond fields. While railway line developments followed the diamond rush, the line from Cape Town bypassed Victoria West itself, lying 12 kms to the east. However, a station was built to serve the community in Victoria West at a new siding called Hutchinson.

The increased demand for mutton as a result of the opening of the diamond fields of Kimberly led to a process of what Archer (2000: 683) has described as "induced innovation" in commercial sheep farming in the Karoo. The rise in demand doubled sheep prices, pushing farmers to find ways to increase the productivity of their land; in this context investment in windmills, storage tanks and fencing began to look both increasingly affordable and necessary (Archer, 2000; van Sittert, 2005). The era of settled, white-dominated, commercial agriculture, organised primarily around sheep farming on the large fenced farms that are today seen as emblematic of the Karoo landscape, had arrived. Of interest today is to reflect on this period of history as akin to that of game farming today, in which farmers innovate in response to the opportunities and challenges facing the commercial farming sector. (See chapter 6 and 7.)

5.1.5 Environmental change

Debates around environmental degradation were, according to Beinart (2003), evident surprisingly early in the history of European settlement; he argues that the roots of conservationist thinking arose from farmers' emerging understanding of their rangeland environment, based on their experiences with livestock farming, while international scientific advances were also beginning to frame environmental problems in new ways. However, "it is important to stress that conservation, even at this stage, often implied wise usage of natural resources rather than protection" (Beinart, 2003: 64) – an observation that resonates with the contemporary understandings of conservation expressed by commercial farmers in the Ubuntu Local Municipality, both game and livestock.

Though pasture exhaustion and vegetation change were recognised among livestock farmers before the end of the 18th century and seen as a cause for *trekking* (moving on) (Beinart, 2003), ecologists attribute the institution of private ownership rights over grazing land and the introduction of fences to enclose the rangeland as playing a particularly significant role in ecological change in the Karoo (Archer, 2000). As agriculture became more settled around privately-owned water sources, grazing practices were dramatically altered (Atkinson, 2007a). Increasingly the herding of livestock from the veld to various water sources and the *kraal* (small enclosure) on a daily basis, mostly to protect livestock from predators, has been linked to the degradation of the Karoo rangelands (Archer, 2000; van Sittert, 2005; Atkinson, 2007).

The increased importance of livestock farming following the wool boom of the 1840s resulted in high stocking densities and this, coupled with "droughts, flash floods, and shallow, fine-textured soils, in combination with clearing of alluvium for subsistence cropping, caused soil erosion, salinization and widespread, persistent changes in vegetation composition" (Milton & Dean, 2015: 128). In this time, according to Archer (2000:679), "the deterioration of the plant cover and the concomitant soil erosion proceeded beyond the critical stage when prolonged resting might have permitted recovery and restoration of the original vegetation". Beinart (2003: 66) notes:

Comments about the impact of colonization on the environment focused especially on the pastoral economy, which was so central to settler livelihoods. By the mid-18th century, observers noted the 'disappearance of grass and the springing up of small bushy plants in its stead'.

Complaints about increasing drought were identified in the first few decades of the 19th century; according to Beinart, in many districts' farmers were convinced that good years were becoming less frequent and overall rainfall was declining. He quotes Howison from the East Indian Company in the 1820s who “distinguished between longer-term and recent change”:

it is very certain that in many parts of the interior of the country the springs and rivulets are drying up and the annual rains become more scanty and irregular. The traveller often meets with houses and farms that have been deserted by their owners on the account of a permanent failure in the supply of water which they once enjoyed (quoted in Beinart, 2003: 78).

This comment from 200 years ago also sounds extraordinarily current today, in relation to farmers' challenges around drought in the Ubuntu Local Municipality. Many of the farmers I interviewed expressed concerns about the impact of ongoing drought in the district to me in very similar terms, while some farmers in the region have abandoned their farms, opting instead for other livelihood options away from their farms.

5.1.6 Agrarian and demographic change in the 20th century

The agrarian economy of the Karoo underwent various changes at the turn of the 19th century and in the first few decades of the 20th. According to Beinart (2003), between 1895 and 1904 the Karoo experienced a significant decline in wool production as merino sheep numbers declined from 10 million in 1875 to below 6 million in 1905. This, coupled with a period of drought (1880-1920) and the impact of the great depression in the 1930s, led to changes in many Karoo towns as the growth in commercial agriculture stalled and most small towns entered a period of “long-term decline” (Nel *et al.*, 2011). During this time there was an increase in farm worker mobility to towns (Beinart, 2003), driven in part by the declining demand for the services of “coloured” herders (as the descendants of the Khoisan were now called), as fences and other innovations made their labour redundant (Mkhize, 2019). In this time poor white tenants on farms (called *bywoners*) also moved off the land.

Drawing on the work of Beinart (2003), Hill and Nel (2018) and others, Walker *et al* (2018:164) have summarised the major developments in the agrarian economy of the Karoo in the 20th century before South Africa's transition to democracy in 1994 as follows:

Merino wool remained the prime agricultural product [...] into the late 1950s, culminating in the ‘wool boom’ of 1951 in the wake of the Korean War. Stock numbers

peaked at over 23 million in the 1930s but thereafter decreased, in part in response to government policy that rewarded stock reduction to restore poor rangeland condition [...] After wool prices dropped, many farmers shifted from merinos back to meat-producing sheep breeds, such as the local bred dorper, which needed less labour [...] A process of consolidation of farm holdings got underway from the 1970s, which has continued into the present. White migration to larger urban centres beyond the Karoo increased while financially stronger farmers bought out weaker farmers, not only adding to the decline in the white population but precipitating a movement of redundant farmworkers of the land and into nearby small towns.

The 20th century thus saw significant changes in the demography of the Karoo, from a predominantly rural population in 1911, the year of South Africa's first national census, to one in which, by the time of the 1970 census, the majority of the population was urban, mostly living in small country towns.

Table 5.1 below shows the changes in the distribution of the population between urban and rural areas as well as the different "race" groups (as defined under apartheid) in the Karoo between 1911 and 2004:

Table 5.1: Population changes in the Karoo, 1911-2004

Population	1911	1936	1951	1970	1980	2004
Total urban	89,885	119,600	160,311	264,426	280,627	365,959
Urban white	40,012	53,316	61,219	57,821	50,516	44,820
Urban coloured	25,920	36,492	55,572	116,976	131,762	188,880
Urban black	22,011	30,095	42,497	88,210	98,349	132,417
Total rural	199,013	198,575	194,810	206,418	180,729	133,790
Rural white	85,506	62,111	45,736	26,790	21,049	17,794
Rural coloured	61,470	73,030	82,046	99,880	94,088	86,183
Rural black	52,037	63,300	67,648	79,194	65,592	31,830

(Source: Adapted from Nel et al., 2011)

A more recent article by Hill & Nel (2018: 207) calculates that between 1911 and 2004 the overall population of the Karoo grew by 176 %, the total urban population grew by 407 %, while the rural population declined by 33 %; in this time the white population declined by 50 % (from 44 % of the total population in 1911 to just 12 % by 2004), while the total "coloured" and black African populations grew by 314 % and 221 % respectively. In this period the fortunes of the small towns in the Ubuntu Local Municipality fluctuated. According to the national census data, the populations of both towns peaked in 1970; in 2011 Victoria West was a little bigger than it had been in 1911 while the population of Richmond was almost the same.

Table 5.2 below shows the census figures for these two towns in the century between 1911 and 2011.

Table 5.2: Population changes in Victoria West and Richmond between 1911-2011

Town	1911	1936	1951	1970	1980	2001	2011
Victoria West	7,514	8,351	9,210	11,317	10,856	5,728	8,254
Richmond	5,295	5,623	6,172	7,291	7,422	4,316	5,122

(Source: Hill & Nel, 2018)

Already by the 1970s some farmers in the arid and semi-arid districts of the Northern Cape were switching to game farming. The development of game farming accelerated in the 1980s owing to the deregulation of commercial farming. During my fieldwork I had an opportunity to interview the pioneer of game farming in the Northern Cape, who explained that game farming has evolved over the years, acquiring new meanings and values. Whereas initially, when he first ventured into the industry, game farming had been pursued mostly for “cultural hunting” over time the realisation of its economic potential has seen it branching out in new directions (Kennedy, interview, 2016).

5.2 Land and agriculture in the Northern Cape Province after 1994

5.2.1 The agricultural sector

Today the Northern Cape province is characterised by an agricultural sector with two main production systems, namely, extensive livestock and game farming across most of the province and intensive irrigation crop farming along the Orange/Gariep river (Eckard, 2015; Maswana, 2017). According to Maswana (2017), the local municipalities of Ubuntu, Siyathemba and Siyancuma are particularly important contributors to the livestock sector in the province. Small-scale livestock farming on communal land is, as already noted, practised in the former “coloured reserves”, located mainly in the Namakwa District Municipality; various land reform projects since 1994 have resulted in some small-scale farming being practised on commonages attached to towns, as well as on a limited number of land redistribution and restitution projects (discussed further below). Although not insignificant for individual household livelihoods, the contribution of this farming to provincial GDP is small.

Table 5.3 below shows the distribution of land in the Northern Cape between major land uses, as it was documented in 1991. It demonstrates the significance of extensive farming as the

major land use within the Northern Cape, encompassing a little over 80 % of the land in the province.

Table 5.3: Land use patterns in the Northern Cape (1991)

Land Use	Hectares	Percentage
Grazing	29,089,367	80,8
Nature Conservation	4,295,068	11,9
Arable	454,465	1,3
Other	2,161,100	6,0
Total	36,000,000	100.00%

(Source: DAFF-Abstract of Agricultural Statistics, 2016: 5)

While most land is allocated to commercial farming, the number of commercial farmers is declining. Thus, according to DAFF's 2016 *Abstract of Agricultural Statistics*, the total number of commercial farming units in the Northern Cape decreased from 6,114 in 2002 to 5,128 in 2007. At the same time, Statistics South Africa classifies many more households as agricultural, once small-scale farmers and those practising "backyard" farming are recognised as also having an interest in farming. In the Northern Cape a total of 48,798 households were classified as agricultural in 2016 (down from 55,150 in 2011), almost three quarters of them (73 %) black small-scale farmers on communal, commonage or backyard land (Statistics South Africa, 2016: 14,17).

Table 5.4 below shows the distribution of agricultural households by main place of agricultural activity in the Northern Cape in 2016. This shows backyard farmers to be by far the largest category, most of these households, however, owning very small numbers of animals, with farming not their only or main source of livelihoods. The same Report noted that farming was the main source of household income for 18 % of all agricultural households; for 30 % it was the main source of household food; for 25 % it was an "extra" source of household income and for 12 % it was an "extra" source of household food. A further 11 % of agricultural households were reported to be farming for leisure or as a hobby, while the remaining 4 % were allocated to "other" purposes.

Table 5.4: Distribution of agricultural households by main place of agricultural activity in the Northern Cape, 2016

Place of agricultural activity	Number	%
Backyard	30,206	62
Farmland	11,711	24
Communal land/ commonage land	5,417	11
School, church or other organisational land	342	0,7
Other	1,122	2,3
Total	48,798	100

(Source: Adapted from Statistics South Africa, 2016)

As already discussed, in the Northern Cape the number of animals with which one is farming is a major indicator of scale. Table 5.5 shows the distribution of agricultural households in the Northern Cape (not just the Karoo) in terms of the type of animal and size of their herds, as measured in 2016. As discussed further in Chapter 8, having 100 animals or more is taken as an indicator of being an “emerging commercial farmer” by DAFF, even if not a fulltime one. (For more discussion on this see Chapter 8, section 8.1). What the table shows is that commercial farming in the Northern Cape is based overwhelmingly on sheep, while small-scale and backyard farmer households are heavily invested in cattle as well. As will also be discussed in Chapter 8, the number of livestock that small-scale farmers farm with is a useful indicator of their motivations for farming – whether primarily for household subsistence purposes or with an interest in producing for the market, even if not as a fulltime farmer.

Table 5.5: Distribution of Northern Cape agricultural households (HH) per herd size, 2016

	Agricultural households						
	100+ stock		11-100		1-10		%
Livestock	No HH	%	No HH	%	No HH	%	
Sheep	4,359	27,6	6,176	39,2	5,234	33,2	100
Goats	849	5,1	8,492	51,4	7,167	43,4	100
Cattle	1,248	9,8	5,573	43,9	5,889	46,3	100

(Source: Adapted from Statistics South Africa, 2016)

5.2.2 Land reform

What the discussion above indicates is that there is a significant demand for land by part-time farmers for livestock grazing in the Northern Cape. Land reform in this province has, however, lagged behind other provinces, not if measured in terms of the total hectareage that has been

distributed but in terms of the proportion of provincial land that has been redistributed. The reasons for this lie partly in the history of the province already described, which saw the indigenous people of the region dispossessed of most of their land before 1913, the cut-off point for the land restitution programme as described in Chapter 2. That said, there have been some significant land claim victories within the Northern Cape, over very extensive areas of land; these include that of the Khomani San over parts of the Kalagadi Transfrontier Park, which resulted in the return of 68,000 ha. of the land (Ellis, 2010), Riemvasmaak along the Orange River (Mckenzie, 2016) and the Richtersveld claim in the west (Berzborn, 2007). Table 5.6 below provides an overview of the amount of land redistributed through land redistribution and restitution in the Northern Cape by 2017/2018, as summarised in a 2018 presentation by Walker (available in Walker, 2019), drawing on various sources of data.

As indicated in Table 5.6, the Northern Cape commonage programme has been the single largest contributor to land redistribution provincially, and a very significant contributor to the commonage programme nationally. Walker (2018, in Walker, 2019) has noted that the commonage programme accounted for 33 % (725,000 ha.) of all land made available under redistribution in the Northern Cape up to the end of 2016. However, although commonages were meant to ease land hunger among small-scale farmers in urban areas, the influx of people to the small towns of the Karoo, in part because of the laying off of farm workers from commercial farms, has witnessed environmental pressure on commonage land. Furthermore, as pointed out by Atkinson & Ingle (2018), frustrations with the collective sharing of farming land in situations where land management institutions are weak or largely non-existent is leading to growing discontent amongst commonage users, with the more successful farmers aspiring to farm individually. As discussed further in Chapter 8, this is certainly the case within the Ubuntu Local Municipality, where small-scale farmers complained to me that power struggles among land reform beneficiaries on collectively accessed land often resulted in the sabotaging of not only the group's shared resources but also of individually owned assets.

Table 5.6: Overview of land redistribution and restitution in the Northern Cape, as of March 2018

Land reform	Northern Cape (NC) (ha)	% of NC province	South Africa (ha)	% of South Africa
TOTAL LAND AREA (HA.)	36,183,000	30 % of SA	121,909,000	100
COMMERCIAL AGRICULTURE 1996	29,734,978	36 % SA commercial agriculture	82,209,571	67,4 %
SLAG/ SPLAG	61,914		779,821	
LRAD	120,656		1,164,893	
Commonage	726,436	33% NC land reform	845,932	
PLAS	635,417		2,036,718	
Other 50/ 50; church	0		33,605	
Farm dweller/ labour tenants	8,977		963,356	
TOTAL REDISTRIBUTION (MARCH 2018)	1,553,400		5,824,325	
TOTAL RESTITUTION (MARCH 2017) RURAL AND URBAN LAND	656,907	19 % SA restitution	3,389,727	
LAND REFORM TOTAL	2,210,307	24 % SA land reform	9,214,052	11,2% SA agriculture
Tenure reform: coloured reserves	1,227,926	3,2 % NC	1,188,670	1 %

(Source: Adapted from Walker, 2019: 17)

5.2.3 Land degradation

In the latter half of the 20th century the three editions of John Acocks' seminal *Veld Types of South Africa* (1953, 1975, 1988) contained brief but important discussions on "recent and future changes" in the Karoo vegetation, based on his pioneering research (Meadows, 2003). Prominent in his discussion of vegetation dynamics was the idea that the Karoo was expanding into the biomes to the east and north while drier veld types were invading the Nama Karoo from the west. According to Acocks, quoted in Meadows, (2003: 62) "the most striking, and alarming change is the spread of the Karoo at the expense of sweet grassveld. This spread of the Karoo eastwards has amounted to 250 km in parts; it is still proceeding". Acocks found that there was a widespread decline in more palatable grasses such as *rooigras* and argued that the Karoo was turning into a "near-desert in the sense that soil erosion was universal and that there

was no longer a permanent, unbroken vegetation cover, and only rarely a temporary cover” (Acocks, 1975: 8).

According to Meadows (2003: 62), although this work pre-dated most of the literature on land degradation, “there is little doubt that what Acocks was referring to was part of a process that was eventually to become widely known as desertification”, a word which Acocks himself never used in his writings. Underlying his argument was the view that in the precolonial Karoo the vegetation had been considerably grassier than it had become by the second half of the 20th century, a view which Meadows (2003:63) has questioned in terms of the nature of the evidence.

In a more recent study on environmental change within the Nama Karoo biome, Hoffman, 2014: 716) also questioned Acocks’ claims, basing his views on the empirical evidence from his own studies:

Acocks’s (1953) portrayal of the devastating impact of commercial agriculture on the vegetation of South Africa was so compelling that little original research was undertaken on this theme for decades after his publication. No attempt was made, for example, to document the effects of the stock reduction scheme and changing land-use practices in the region on the proportion of grasses and shrubs in the landscape.

Hoffman based his critique of Acocks on an analysis of repeat photographs of several sites spread across the Karoo that were first photographed in the early 1960s and then photographed again in 1989; what these photographs reveal is that the grass cover was greater in the later period than in the earlier. He argued that the trend in the recovery of grass cover was probably greater in the Nama-Karoo today than it has been at any time over the last hundred years and concluded that concerns around desertification are exaggerated (Hoffman, 2015). He attributed the increase in grassiness to improved farming practices and continued reduction in livestock numbers (Hoffman, 2015).

What is not in dispute, however, is that the Karoo landscape is vulnerable to degradation through mismanagement, including through overstocking, inappropriate developments and the careless use of its limited water resources. This is especially pertinent under drought conditions (discussed below). The challenge for environmental policy, according to Milton, Dean & Richardson (2003: 250) is, therefore, to encourage sustainable economic development while simultaneously discouraging “activities and practices that provide short term benefits but have enduring environmental and social disadvantages”. This is a key consideration in assessing the

relative merits of livestock and game farming as sustainable land uses, also in relation to conservation through protected areas. As Herling *et al* (2008: 827) have argued, “many human activities including agriculture reduce the capacity of the ecosystems to benefit people by degrading ecosystems”. At the same time, however, what has also to be recognised is that “downscaling and land-use change associated with local farming activities have considerable implications for a region already characterized by poverty and welfare dependence” (de Villiers, Esler & Knight, 2014: 277). This is where the tripartite understanding of sustainable development put forward by Holden *et al* becomes important, because of its insistence on the imperatives of addressing sustainable development in terms of addressing basic needs and social justice and not environmental concerns alone.

5.2.4 Drought and climate change

As a review of the history of this region since the colonial period makes clear, the farming environment in the Ubuntu Local Municipality has undergone profound changes in the past 200 years as a result of the development of settled agriculture and the entrenchment of a highly unequal, racially segregated society during the 20th century. Until the mid-20th century white commercial farmers in the Karoo were major beneficiaries of this history. However, in the latter half of the 20th century, commercial livestock farming entered a period of political and economic change, beginning with the state’s deregulation of agriculture in the late 1970s and followed by the dramatic political changes with the transition to democracy in 1994. These changes have coincided with what the editors of a 2018 journal issue devoted to “trajectories of change in the Karoo” have described as “a process of ecological and social transformation which is arguably as significant as any that has previously affected these drylands”:

Global change is changing conditions of water, carbon and energy, with regional climate projected to become hotter with more frequent extreme weather events, including more severe droughts. In addition, the relatively recent emergence of a suite of large-scale shifts in land use [...] is threatening not only the integrity of Karoo ecosystems, but also challenging the bases on which the region’s economy and social fabric has been organised over the past 150 years or so (Henschel *et al.*, 2018: 152).

Walker *et al* (2018:171) have singled out three major drivers of change in the Karoo as being climate change, changing land uses and governance, “more particularly, the role of the state regarding policy direction and enforcement relating to the environment and social and economic development”. These changes are impacting cumulatively but unevenly on the

commercial farming sector, prompting Ubuntu farmers to be increasingly reflexive about their farming practices, their farm management styles and their strategies for the future.

With regard to the issue of climate change, according to Ziervogel, New, Van Gardeen, Midgely, Taylor, *et al.* (2014), this is currently the most serious environmental concern in the Northern Cape, as increases in greenhouse gases are impacting on the frequency of extreme weather phenomena like drought, floods, wildfires, heat waves and hailstorms. The government of South Africa declared the Northern, Western and Eastern Cape as disaster areas in 2018, following a five-year period of below average rainfall. In October 2018 the President of Agri Northern Cape reported that some 70 % of the province and “at least” 15,500 farms were “affected by drought as the worst in 15 years”; this is severely impacting on the economies of the province’s rural towns as farm workers are laid off and small business “implode” (Mashego & Speckman, 2019).

In 2013 a Drought Relief Scheme (2013/ 2014) for extensive farming in the Northern Cape Province commissioned by DAFF proposed that poor management of natural resources and over-grazing, rather than climate change, should carry the blame for the pressures associated with drought in the province. However, the more recent studies drawn upon in the assessment by Walker *et al* (2018) point to climate change as a major driver of not simply less rain but also the hotter temperatures which are affecting the quality of the rangeland. Certainly, the Ubuntu farmers I interviewed, across the spectrum of scale, identified drought as a major challenge in the region.

Veld degradation as a result of persistently drier and/or hotter weather conditions is of huge concern in an area that depends on rangeland livestock production (Sayre, Carlisle, Huntsinger, Fisher & Shattuck, 2012). Land degradation increases the pressures on commercial and subsistence farming alike, and reduces farmers’ economic options (Cousins, Sadler, Evans, Goldblatt, Laughlin, *et al.*, 2003). Resource use in the Karoo has become a pressing issue and according to Atkinson (2007: 708), there is a “need to address the question of how the vast and biologically diverse” but marginal Karoo region “should be used in a country with a growing land-hungry population”.

5.3 Conclusion

This chapter shows how struggles over resources within the Northern Cape historically have both shaped and been shaped by the environment of the Karoo. As the *trekboers* moved further into the Cape interior, they adopted the seasonal transhumance patterns utilised by the Khoikhoi. From a relatively early period, there was a recognition of the ecological limits set for human social organisation by the arid environment of the Cape interior and awareness that survival was predicated on environmental knowledge as well as control over critical water resources. Land tenure changes within the 19th Century and the development of settled agriculture, coupled with the wool boom and growth in the global export economy, led to the growth of towns and relative prosperity for some but exerted pressure on the environment, resulting in massive changes in terms of biodiversity and land degradation. State interventions were important for introducing policies that promoted reduced stocking rates and better land management practices in the commercial farming sector in the 20th century, but the land needs of black small-scale farmers were completely marginalised in the apartheid years – an outcome of the history of white settler farming that South Africa's post-1994 land reform programme has failed to address at scale. It is against this background that the growth of game farming since the 1970s and the research findings from my case study of the Ubuntu Local Municipality that I present in the next three chapters (chapter 6 -8) need to be understood.

Chapter 6: A profile of commercial farming and farmers in the Ubuntu Local Municipality

This chapter presents a profile of commercial farmers and their farming activities in the Ubuntu Local Municipality, drawing mainly on the data collected through my background survey and in-depth interviews with individual farmers in the municipality, supplemented by key informant interviews and secondary data. It lays the platform for the discussion in Chapter 7, which focuses on the motivations behind Ubuntu farmers' decisions to switch to game farming or remain with livestock farming, as well as their understandings of biodiversity conservation and practices around sustainable agriculture. The primary distinction in this discussion is thus that between livestock farmers and game farmers. However, as already indicated, the two categories should not be regarded as absolute. This is because most Ubuntu game farmers are more accurately described as “mixed” farmers, i.e. they practise both game and livestock farming, while the livestock farmers all have some wildlife on their lands that they may exploit from time to time.

This chapter is divided into two main sections. In the first section I present a brief overview of commercial farming in the Ubuntu Local Municipality, building on the historical overview and account of contemporary conditions in the Northern Cape province provided in the previous chapter. This is followed by a profile of my sample of commercial farmers in terms of demographic considerations (race, gender, age, education etc.) and then the nature of their land holding, including a discussion of ownership patterns and history. In section 2 I discuss these farmers' views on the issues and challenges they face as commercial farmers and the coping strategies that they are utilising to deal with them, including their views on the significance of climate change.

6.1 Overview of commercial farming

6.1.1 Types of farming

In my background survey of commercial farmers in the Ubuntu Local Municipality approximately 80 % (46) of the farmers classified themselves as livestock farmers and the remaining 20 % (11) as game or, more accurately, mixed farmers (i.e. while they were farming

commercially with game, they generally had some livestock as well). These farmers have commonly introduced game to their farming operations in one of two ways:

1. Downscaling their livestock operations by reducing the number of camps allocated to sheep farming and introducing separate camps allocated for game farming.
2. Buying or renting additional land, including from neighbours, that can be dedicated towards the game side of their farm operations.

All the commercial farms are fenced in terms of fencing regulations, but the game farms can be easily distinguished when driving along district roads by their high fences; most also have automated electric gates and camera monitoring of the people entering and exiting the farm. Some cattle farming for beef is practised in the region, but it is on a very limited scale because the area is not well suited for cattle grazing, unlike the grassier districts of the Eastern Karoo (livestock farmer Neill, interview, 2017). Some crop production under irrigation also occurs, mainly lucerne and garlic, as a source of supplementary income (livestock farmer Henry, interview, 2017). According to Vicky, a DAFF Extension Officer, land in the areas of Victoria West and Loxton is very productive; in 2017 a 7,000 ha. farm in the Victoria West area would sell for between R20-R30 million, depending on the infrastructure on the farm (interview, 2017).

Of further note, as already mentioned in Chapter 4, the growth of game farming in the Ubuntu Local Municipality is seen as promoting tourism which, according to the Municipal Manager, has had positive effects on the wider economy of the municipality (interview, 2017). According to the Municipal Manager and game farmers I interviewed, the growth of game farming in the area has created employment not only on the individual game farms but also within the local towns, mainly in tourism-linked businesses (bed-and-breakfast enterprises, restaurants, garages, curio shops etc.).

Livestock farming

Despite the growing interest in game farming, small livestock farming with sheep still forms the backbone of the economy in the Ubuntu Local Municipality, with most livestock farmers farming with both the merino breed of sheep (primarily for wool) and the dorper breed (for meat). Farming with both is considered important because it allows for diversified income streams (livestock farmer Jacob, interview, 2017). When asked about the relative importance of meat and wool production, 40 % of the livestock farmers in my survey said that meat

production was the largest contribution to their gross income while the remaining 60 % said meat and wool production were evenly mixed. A small number of livestock farmers are also branching out into tourism – two of the livestock farmers I interviewed mentioned that they have diversified their incomes by adding bed-and-breakfast facilities and were promoting farm ecotourism in the form of bird watching and hiking on their farms.

According to the Victoria West Farmers Association chairperson, an average commercial livestock farm of approximately 6,000 ha. can carry between 700-1,000 ewes optimally, depending on the particular farm and prevailing weather conditions, i.e. stocking rates of between 6-8,5 ha/sheep are considered the norm. One livestock farmer I interviewed was more conservative in his estimate, stating that “the grazing capacity in this area is 7-15 ha/ewe and in dry times like now this can extend to 15-20 ha/ewe” (livestock farmer Ruan, interview, 2017). The wool produced is mostly for the international market, with about 90 % of the wool produced in South Africa being exported to China, Italy, France and the UK (DAFF, 2017). Meat is mostly produced for the local South African market, with farmers generally selling their meat to local abattoirs within the Pixley ka Seme District. The largest registered abattoir in the Pixley ka Seme District is in the town of De Aar, in the neighbouring local municipality, which in 2017 was reported to slaughter some 2,000 sheep a day (DAFF Officer, interview, 2017).

As mentioned in chapter 3, it was difficult for me to obtain hard data on farm income and the estimates I was able to receive varied considerably. At the time of my fieldwork (2016-2018), the area was grappling with a severe drought and farmers were struggling with the burden of significant supplementary feeding because of the depletion of the natural feed from the veld; farm incomes were therefore under major pressure. According to a key informant at one of the Farmers’ Associations, the average net income of livestock farmers was approximately R700,000 per annum (Pieter, Farmers Association, 2017). These figures are broadly comparable with findings by Amelia Genis for the Central Karoo, where average farm sizes were somewhat bigger, at 7,374 hectares, herd sizes ranged between 187 and 1,850 sheep and annual turnover ranged between R125,000 and R1,24 million per annum (Genis, reported in Walker, 2019: 8).

Wildlife is generally present on all the commercial farms in the municipality. This is mainly plains game, including springbok, steenbok, blesbok, gemsbok and blue and black wildebeest. Most of the farmers I spoke to noted that farms have become important habitats for a variety

of wildlife species. According to one livestock farmer, a retired ecologist and member of the District Land Committee:

Most of the farms in the municipality, even those identified as livestock farms, have the free-ranging game on their farms that include springbok and steenbok. In previous years, the steenbok was for free, but nowadays more and more people earn extra money from the extra game, oryx, steenbok or wildebeests or whatever the case may be to be found on their farms, through hunting and biltong (Howard, interview, 2017).

Although game farmers in the Ubuntu Local Municipality are a minority, they are not a negligible group in terms of their significance and influence; they also represent a trend that may well become more pronounced in coming years. In 2016, when I was just beginning my fieldwork, I was fortunate to be able to attend a meeting in Victoria West at which potential new entrants into the game sector were meeting with established game farmers in the municipality as well as with Biodiversity Officers from the Department of Environment and Nature Conservation, to learn about the process of getting wildlife ranching permits. What I observed at this meeting was that the potential farmers were generally young, between the ages of 35 to 45, and many of them appeared concerned about the environmental pressures affecting livestock farmers. There was also a sense of excitement at the meeting about the potential of game farming as a more lucrative livelihood option than livestock farming, because of the wider range of economic opportunities that it offers farmers; this enthusiasm was, however, tempered by an awareness of the capital required to become a successful game farmer. (These issues are discussed further in Chapter 7.)

The game farmers in the municipality are involved in all the sub-sectors of the industry discussed in Chapter 4, namely hunting, ecotourism, live game sales and game meat (the latter primarily in the form of *biltong*),¹⁷ with ecotourism and hunting the main foci. None of the farmers I interviewed were breeding colour variants, with farmers concentrating on the breeding of stud animals. Ecotourism in the municipality is not of the high-end safari type. The one 'big 5' species farmed with in the area is the rhinoceros, with most farmers preferring plains game that they consider more suited to local conditions. Hunting in the area involves both trophy and biltong hunting.

According to the farmers I interviewed, the development of game farming in the municipality has been slower than in other parts of the Karoo, which they attributed to the profitability of

¹⁷ Biltong from local farms is being produced and sold by a local factory (Karoo Delights) in Victoria West.

livestock farming in the area. While there was some limited farming with game in earlier decades, the shift towards game farming has only become prominent since around 2007. At the same time local game farmers have not switched to game farming completely, opting, rather, to combine some livestock farming with their game farming. The motives behind the growing interest in game farming and the significance of environmental concerns within that are explored in Chapter 7. As discussed more fully there, the relationship between economic considerations and environmental awareness is complex. Key informants I spoke to attribute the switch to game farming to the growing pressure on local sheep farmers as a result of environmental dynamics (Biodiversity Officer, interview, 2017), linked to a recognition of the game sector's greater profitability in a time of ecological change (Kennedy, Interview, 2016). Most of the game farmers I spoke to acknowledged that although their switch to game farming was motivated primarily by economic considerations, they also recognised the importance of environmental conservation for ensuring the sustainability of not only their game farming operations but all farm-based livelihoods in the area.

Crop production under irrigation

Four of the 57 commercial livestock farmers in my background survey were also producing lucerne while five farmers (three livestock and two game) mentioned they were producing garlic. Lucerne is regarded as particularly valuable as a source of fodder for one's own animals and also a source of additional income in times of drought (livestock farmer Luke, interview, 2017; DAFF, interview, 2017). The main restriction on more uptake of irrigation farming in the municipality is that it requires substantial capital to establish the infrastructure in a semi-arid region dependent on underground water sources (livestock farmer Simeon, interview, 2017). Farmers in the Loxton area who are involved in garlic farming caution that it is not a get-rich-quick scheme. Livestock farmer Jan, who belongs to the South African Garlic Growers Association, explained to me that the profitability of garlic farming lies in choosing the type of garlic best suited to the climatic and soil conditions of the area (interview, 2017). According to a key informant at the Ubuntu Municipality, some farmers in the Loxton area are exploring possibilities of processing garlic into different products (vinegar, pickled garlic, chutney, etc.) rather than simply selling it in an unprocessed state (Municipal Manager, interview, 2017).

Farm size and land consolidation

The average farm size of the farmers in my survey is just over 6,000 hectares (6,006 ha). The farmers I spoke to were clear that the size of farms in the municipality is dictated by its ecology and that smaller farms would not be economically viable:

People forget that farming is not a haphazard activity. We are fortunate that we are farming in an era in which research and technological advancements go hand in hand. Trial and error have over the space of time led in the generation of data indicating the agricultural potential of different areas (livestock farmer Ruan, interview, 2017).

A productive crop production farm in the Eastern Cape would be smaller in size compared to an irrigated crop farm in the Karoo. Similarly, a productive sheep farm in the Eastern Cape would be smaller than a farm here in the Northern Cape where the climate, the veld, temperatures, the soil and other geographic components necessitate for more extensive grazing (livestock farmer Manus, interview, 2017).

Karoo vegetation is not suited to cattle grazing, I only keep these cattle to ensure that they utilize the grass on the farm. A successful farmer is aware that herd size of any type of livestock is determined by the rainfall patterns in any region as they directly impact on available fodder (game farmer Adam, interview, 2017).

Furthermore, farmers indicated that to remain profitable farmers need to expand their land holdings and diversify geographically: “Over time the veld is reducing in its production capacity, and to be viable a farmer must seek avenues of getting more land that include buying or renting land from a neighbour” (livestock farmer Ruan, interview, 2017). In general farmers are seeking new opportunities to remain profitable and this, according to Vicky, a DAFF Extension Officer, is the major driving force behind the land consolidation visible within the province (Interview, 2017). Reasons given by the farmers I interviewed on the need to increase land holdings linked the need to maintain a decent income, including through diversification of farm operations at a time of diminishing returns, to drought and the reduced capacity of the land.

Thus, the more successful farmers own more than one farm within the municipality or province and in some rarer cases outside the province, the latter associated with diversification of farm production into activities not suited to the semi-arid conditions of the Northern Cape. Of the 57 farmers in my survey, seven indicated they had acquired more land within and outside the municipality in the past 20 years. At the same time, there is recognition that individual farms

vary considerably in terms of their quality, so that size is not a sufficient measure of profitability. In the words of a game farmer:

You can have a 15,000 ha. farm but remember, it can also be a big and unproductive farm. Natural vegetation is the major supply of food for your livestock or game, if your veld does not produce quality natural vegetation, then you have 15,000ha. of nothing if you are a farmer (game farmer Vim, interview, 2017).

The importance of large farms in an arid environment was one of commercial farmers' main criticisms of current land reform projects based on communal farming on commonage or land acquired by the state for redistribution – in their view, this is unsustainable because the size of the farm matters in the Karoo. One farmer summed up this position thus: 'You need 7,000 hectares for one person. How do 28 farmers survive on 7,800 hectares?' (livestock farmer Howard, interview, 2017). In an interview I conducted with Tim Hoffman, the Leslie Hill Chair of Plant Conservation at the University of Cape Town, he highlighted the problem of commonage land being too small for the number of farmers on it, resulting in the land being "overgrazed, heavily utilised, and not in good condition" (interview, 2017). As will be seen in Chapter 8, small-scale farmers in the municipality are very aware of these problems and vocal about the issue of land availability.

6.1.2 Demographic profile of the farmers

Demographic information is important for locating one's research subjects within their broader social and economic context. In this regard, Sikwela & Mushunje (2013) and Siulemba & Moodley (2018) have argued that demographic variables such as age, gender and education all have an influence on farmers' decision-making around their agricultural practices and their responses to pressures such as drought, pests, disease control and land degradation. In this vein, studies by Kapekele (2006) and Masunda (2014), on the adoption of sustainable agricultural practises in Zambia and Zimbabwe respectively, found that younger farmers tended to be more flexible and open-minded than older farmers who were more set in their ways of doing things. This certainly corresponds with my findings: the farmers in the Ubuntu Local Municipality who have taken up game farming or are contemplating it are likely to be younger than those who remain committed to livestock farming as their primary farming activity. At the same time, the farmers who are more likely to take up game farming also tend to be those with more secure financial resources, which can come in a variety of forms, including sufficient capital (for

instance, through their inherited land and/or market investments) as well as access to credit facilities and to technical information about the sector.

Race, gender and language

In terms of race, gender and language my sample of farmers can be seen as archetypical members of the contemporary commercial farming sector in South Africa: all were white, all were male and most of them were Afrikaans-speaking, with 52 of the 57 survey respondents listing Afrikaans and five English as their home language. Of the 25 farmers whom I interviewed face-to-face, 24 were men and only one was a woman, and she identified herself as the spouse of the principal farmer. This does not, of course, mean that women are not active in the commercial farming sector in the Ubuntu Local Municipality but, as noted below, their contribution to the enterprise comes as the spouses or other relatives of the principal farmer/landowner. Interestingly, in view of current concerns around foreign ownership of game farms in South Africa (Presidential Advisory Panel on Land Reform and Agriculture, 2019), all 57 survey respondents indicated that they are South African nationals. Foreign ownership of land is thus not associated with game farming in the Ubuntu Local Municipality, nor is it a general matter of concern regarding the ownership of agricultural land locally.

Marital status and the gendered division of labour

Though the marital status of respondents was not asked in the survey, because of its perceived irrelevance for that component of the study, marriage is a strongly endorsed social institution in this farming community. Thus 23 of my 25 interviewees indicated that they were married while two were widowed. Grinstein-Weiss, Zhan & Sherradan (2004: 2) have argued that “the institution of marriage involves long-term commitment in which a division of labour enables each spouse to specialise in specific skills and duties”.

Further probing around household structure during my in-depth interviews indicated a clear gendered division of labour within farmers’ households, reflecting conventional patriarchal norms. While both partners are actively involved in the farming enterprise, men are generally the legal landowners and responsible for overall management of the farm, including managing labour, livestock/game and security on the farm. They are also the primary actor with regards to outdoor and physical activities on the farm, including oversight of herd counts, fencing,

maintenance of equipment, etc. Their wives, on the other hand, are mostly responsible for indoor operations and the management of the domestic space, including administrative tasks around inventory checking, budgeting and staff payrolls, along with household management and, if there is a tourism component to the business, overseeing the running of the guest houses and interacting with guests.

Age and education

Farmers in my study were generally middle-aged and older, with only one of the survey respondents in the 35 and younger category and approximately two thirds (36) older than 45, as shown in Table 6.1 below. As already noted, the profile of the game farmers is more youthful than that of the livestock farmers, with over half (seven out of 11) of game farmers 45 and younger, compared to 30% (14 out of 47) livestock farmers. While the numbers are small, so need to be treated with some caution in extrapolating to the district as a whole, these figures do support the point made earlier, that game farming is associated with younger farmers who may be more inclined to innovate and take risks, because of their stage of life, than farmers who are moving towards the end of their careers.

Table 6.1: Distribution of respondents by age and farm type in the Ubuntu Local Municipality

Age Group	Livestock Farmers	Game Farmers	Total
35 and younger	0	1	1
36-45	14	6	20
46-55	17	3	20
56-65	11	1	12
65 and older	4	0	4
Total	46	11	57

The greater appetite for risk may also be associated with higher levels of education and exposure to new economic opportunities. Given the small number of game farmers in my survey, caution also needs to be exercised in interpreting the education data. Nevertheless, the results indicate that as a group the game farmers in my study are more highly qualified academically than livestock farmers, with seven of the 11 game farmers having a bachelor's degree or higher qualification, compared to just nine of the 46 livestock farmers. (On this see table 6.2 below.) Furthermore, while only one of the game farmers did not have a senior certificate or more, almost a third (15 of 46) of the livestock farmers had attained a matric or

lower education level. Generally, the younger farmers were very aware of the importance of education, with one livestock farmer, Nico (who himself has an agricultural postgraduate qualification) noting: “The world is shifting and for one to survive in it, one has to keep up with the changing dynamics in agriculture and technology” (interview, 2017).

In general, I found that the younger farmers with an agriculture-related qualification were more open-minded about trying new methods of farming and venturing into diversifying their land uses, for instance through game farming or garlic production. However, for noting here, all the farmers I interviewed exhibited a general awareness that the farming environment is changing in terms of climatic patterns, the frequency of drought, declining veld productivity and new economic and political pressures, and that survival requires an ability to adapt to these changes. In the words of livestock farmer, Diedrick, who has been farming for over 30 years:

My father taught me everything that I know about farming. Farming is a tradition for my people, and we have always tried to stick to the traditional way of farming. However, as time has passed, we have seen farms exchanging owners because production costs keep going up. I have therefore realised the need to change with time or risk losing this land that I am only a caretaker of until I also pass it down to my son as my father did for me (interview, 2017).

Table 6.2: Level of education of survey respondents

Education level	Game farmers	Livestock farmers	Total
Matric or lower	1	15	16
National certificate/diploma after grade 9 (non-agriculture related)	2	4	6
National certificate/ diploma after grade 9 (agriculture-related)	1	16	17
Bachelor’s degree (agriculture-related)	4	4	8
Bachelor’s degree (non-agriculture-related)	1	2	3
Post graduate qualification (agriculture)	1	2	3
Post graduate qualification (non-agriculture related)	1	1	2
No Response	0	2	2
Total	11	46	57

The Ubuntu farmers I interviewed were also positive about supplementing their hands-on experience and informally acquired knowledge about farming through attending training workshops and farmer meetings aimed at facilitating the exchange of ideas among farmers.

These events are generally organised by the various farmers' associations at local, provincial or national level, rather than by the state, with state extension services to commercial farmers no longer a significant presence. The importance of farmers' associations for Ubuntu farmers, which corresponds with what Genis (2015) found in her study, is discussed further below.

At the same time, farmers, especially the older ones, emphasised the importance of the generational passing down of farming knowledge and experience from parent to child (effectively, from father to son). To them this is fundamental for understanding that "farming is not only about production, it is also about understanding the system in which you produce as a farmer" (game farmer Gert, interview, 2017). Deep local knowledge of the particular environment of one's farm was seen as essential if farmers are to identify and respond effectively to variability around temperature, rainfall and wind that their district experiences over time.

6.1.3 Land ownership

Farm ownership

In terms of ownership, all the farms of the farmers in my survey were privately owned, almost all of them (92%) registered to the individual farmer, with a very small number (4 out of 57) owned by a family trust or private company. The breakdown between categories is shown in Table 6.3 below.

Table 6.3: Farm ownership as indicated in the farmer survey

Ownership type	Livestock number	Game number	Total %
Private individual	43	10	92
Family trust	2	1	6
Private company/ partnership	1	0	2
Total	46	11	100

Inheritance

As highlighted in chapter 5 of this dissertation, struggles over land and ownership have been central in shaping the development of agriculture and the welfare of those living in the Karoo since colonial times. As a social group the commercial farmers in the Ubuntu Local Municipality are undoubtedly the beneficiaries of that history, whereby people who were not

classified as white were dispossessed of their land and marginalised both politically and economically. However, the history of land dispossession in the Karoo predates the formation of South Africa as a single country (in 1910), which means that many commercial farmers are farming on land that has been in white ownership for over a century and a half and often in the ownership of their particular families for several generations or more. This, as discussed further below, is a very important part of their identity as Karoo farmers and informs their responses to state-led land reform.

The passing down of farms from one generation to another is considered a long running tradition in this farming community. Eight of the farmers I interviewed described “generational” farming in these terms: in the past when a farmer retired (usually at around the age of 65) or died, ownership of the farm would pass to another male family member, generally the oldest son who would have grown up on the farm and been groomed to take over from his father. Thus, Marko the oldest game farmer whom I interviewed, told me his family farm had been in the family for seven generations, the farm having been first registered to a forebear in 1835, by the then Graaff-Reinet *Heemraad* (council), i.e. at the very beginning of the period in which title deeds were first being issued in this district as described in the previous chapter.

None of the 57 respondents in my background survey had family histories stretching that far back in time but two of the farms in this sample had been acquired in the 1890s, and a further 16 before 1951, as shown in Table 6.4 below. The oldest guest farm in the area was established in the year 1935 and has remained in the family since then, while almost half of the farms (26 out of 57) were acquired before 1960. The figures provided in Table 6.4 below also indicate that a little over a quarter (16 or 28 %) of the farms were acquired between 1961 and 1981, during the boom years of the South African economy (Davies, 1993). Just seven of the 57 farms of the farms in my survey (12 %) have been acquired since 1991.

Not surprisingly, then, inheritance is by far the most important mechanism through which current commercial farmers in Ubuntu Local Municipality have acquired their land. Fifty of the 57 farmers in my background survey (88 %) indicated that they had inherited their primary farm; two had acquired their farms through marriage and only five had bought their farms on the market, all these purchases having taken place between 1991 and 2007.

Table 6.4: Date when the primary registered farm of respondents was first acquired, by ownership type

When acquired (range)	Private individual	Family trust	Private company/ partnership	Cumulative
1891-1900	2	0	0	2
1901-1910	3	0	0	5
1911-1920	2	0	0	7
1921-1930	1	0	0	8
1931-1940	4	0	0	12
1941-1950	6	0	0	18
1951-1960	8	1	0	26
1961-1970	7	0	0	33
1971-1980	9	0	0	42
1981-1990	5	2	0	49
1991-2000	3	0	0	53
2001 -	3	0	(2007) 1	57
Total	53	3	1	57

As already noted, financial pressure on some farmers is beginning to drive the expansion of the local land market but this, according to one of my key informants, is a new phenomenon: until recently the area was “always” known as a good livestock area in which no one would be willing to give up their land (Anton, interview, 2017). The Ubuntu Municipal Manager confirmed that a slow process of consolidation of farm ownership is becoming more apparent in the district, with some farmers selling their family farms to their neighbours (interview, 2016). Several farmers whom I interviewed also noted that farmers with enough capital are acquiring additional farms to increase their productive capacity.

However, other reasons given for why farms are coming on to the market point to generational changes in the attitudes towards farming among the children of commercial farmers. A number of farmers whom I interviewed noted that increasingly farmers’ children are choosing careers outside farming, as their higher levels of education have widened their career choices. Linked to this in complex ways is the challenge of making a decent living through farming, with the removal of the state support that was available in the past and an increasingly competitive global market. The following extracts from interviews with two farmers reflect different emphases but ultimately similar explanations for the declining interest among commercial farmers’ children in following in their parents’ footsteps:

Contrary to what people think, the increasing trend in our children opting to pursue other careers like outside of agriculture is that there is a lot of work in agriculture which in most cases, especially in recent years, has yielded unappealing incomes for farmers. And these are our children and they see how we struggle (livestock farmer Nataniel, interview, 2017).

Technology has brought the world closer to our children. They are realising there are better opportunities for them through education that don't require burning in the sun whole day. This has been worsened by the variable economic pressures and consecutive droughts with little or no support from the government. All these and other factors have made farming very unappealing (livestock farmer Dieter, interview, 2017).

Land and identity

The farmers I interviewed placed land ownership at the heart of their identity as farmers. As stressed by one elderly farmer:

The importance of land is not just about one more asset, its value is in me passing it down to my son, and him to his son and so forth. My grandfather passed this land to me in good condition and it is up to me to do the same with my grandkids. We are merely custodians of this land and nothing more (livestock farmer Verner, interview, 2017).

Individual and family identity as well as caring for the land are entwined with private property rights in the worldview of these farmers. As argued by Pieter, a key informant in a local farmers' association:

Following from the traditions of our forefathers, owning the land that you work on is a guarantee that a farmer will develop his farm and utilise its resources in a sustainable way. It is more natural for a man to want to take care and improve his own property than if it did not belong to him. Most farmers in this area will tell you something similar; we have been taught over the centuries to revere the land that we work and live on as it is sometimes our only heritage and how we use it affects how we pass it on to the next generation (interview, 2017).

The importance of owning land has both economic and social dimensions. Ownership is tied to economic security: not only is it the source of the family's income but farmers can also use the farm as collateral for getting loans from banks and sell the land, if the need ever arises. At the same time the issue of autonomy and self-determination emerged clearly in my interviews

with commercial farmers as a valued consequence of land ownership, tied in complex ways to the need to make a comfortable living off the land. Thus, farmers stressed the importance of being able to exclude anyone from their property at will, as well as being able to make unencumbered decisions on farming operations. In this regard game farmer Adam noted that as a private farm owner he is the primary decision-maker on everything to do with his farm; when decisions must be made there is no need for consultation with any other party. In times when swift and important decisions must be made, he can make the call and accept the repercussions that follow from his decisions. In his absence, a secondary decision maker who is either a spouse or farm manager can make decisions on his behalf (interview, 2017).

A somewhat different view was, however, put forward by game farmer Christiaan, who noted that on a family farm “it is of importance that all adult family members are involved in the making of major decisions involving or affecting the farm business”:

Family decision-making is conducive to an environment in which all members feel included or involved in the running of the business. If there is any feeling of exclusion amongst family members, this may result in individual decision making that may result in conflict with the overall goals of the business (interview, 2017).

The general sentiment amongst farmers is that farming, even on a family farm, is still a business like any other. As such, private property rights are seen as lying at the heart of the economic benefits to be derived from what they do within their boundary fences. Although the land is important for personal and family identity, farmers reiterated that their livelihoods depend on the land being productive. Some 92 % of the farmers in my survey (52) indicated that farming is their main source of income.

6.2 Commercial farmers’ challenges and coping strategies

6.2.1 Challenges

As indicated in chapter 2, farming in contemporary South Africa is taking place under challenging conditions. In this section I present the views of the commercial farmers in my sample on the major challenges they are facing, followed by an account of the ways in which they are coping with these challenges in section 6.2.2.

In my background survey farmers were asked to list all the challenges they are facing, i.e. it was an open-ended question, with no prompts, and multiple answers were possible. Drought

and predation emerged as the two most widely experienced concerns, which is consistent with what Conradie & Piesse (2016) found in their study of Karoo farmers in Laingsburg. Rising production costs as a result of external factors, such as escalating input costs and fluctuating exchange rates, were mentioned by a little over a third of my survey respondents, hence ranking 6th on the list of challenges overall; however, costs were also an implicit concern in relation to other challenges, including drought, labour and the lack of state support. Interestingly stock theft was not mentioned as a major challenge by my survey respondents. However, seven of the farmers I interviewed face-to-face mentioned rising stock theft as cutting into their profitability, particularly on sheep farms game (where docile sheep are much easier to steal than game) (game farmer Jako, interview, 2017).

Table 6.5 shows the responses and the number of times the particular issue was explicitly listed as a challenge in the survey.

Table 6.5: Challenges of farming in the Ubuntu Local Municipality

Challenge	Livestock farmers	Game farmers	Total
Drought	38	6	44
Predators (jackals, caracals etc)	34	4	38
Lack of government support	31	3	34
Labour	26	3	29
Land reform	22	4	26
Production costs	13	8	21
Poor roads in the municipality	5	2	7

* *Multiple response question*

Drought

Drought was the most frequently mentioned challenge facing farmers in the Ubuntu Local Municipality, identified by most of the livestock farmers and around half of the game farmers. According to Pieter, an active member of a local farmers' association:

Droughts act as natural selection; the weaker and diseased animals die first. Some animals have already died from lack of food and water. Water sources on the farms like rivers, dams and watering holes have been severely depleted (interview, 2017).

Farmers have tried supplementary feeding of animals, but the costs have been astronomical:

Droughts have become our number one enemy; some farmers face the reality of being pushed out of farming because of the added burden of supplementing feed for the

animal's year after year, coupled with the rising costs of production (game farmer Daan, Victoria West, 2017).

To clarify why 11 of the 57 survey respondents did not find drought to be a challenge, I asked the farmers I interviewed face-to-face to explain their ranking of these pressures. What emerged is that not all parts of the municipality have been affected equally by the drought, with the Loxton area particularly hard hit.

Though I could not obtain data that quantified the impact of the drought within the Ubuntu Local Municipality, data acquired from AgriSA in the Northern Cape (2017) shows that livestock farmers reduced their stock numbers by over 30 % between the years 2015-2017, with some farmers recorded as having lost all of their herd to the persistent drought. According to data obtained from DAFF (2017), die-offs of both wildlife and livestock populations were being widely reported in the province. Mortality levels varied, depending on the different species, management contexts and ability of farmers to move or feed animals in response to shortages of food and water. Smaller game farms reported higher mortalities of herbivores (ranging between 25 % to 75 % of their herds), mostly because of the restrictions on the movement of the game within fenced camps, while larger game farms with more space for movement did not experience the same level of mortalities (Swemmer, Bond, Donaldson, Hempson, Malherbe, *et al.*, 2018). According to Kriek (2017) browsers were also generally less affected by the ongoing drought compared to grazers. Furthermore, the game farms that experienced the most severe losses were those that were already overstocked and not managing the veld well, thus resulting in the rapid depletion of the veld as the drought persisted.

In my sample of farmers, game farmers noted that game had shown more resilience to the drought than livestock. However, like most farmers in the Northern Cape they had had to sell prize game to mitigate the risk of losing them to the drought, should it prevail. Further, the financial burden of supplementary feeding had prompted two of the game farmers I interviewed to cull some of their plains game. Farmers also mentioned that they had lobbied the government through different platforms (Farmers Associations, DAFF, farmers magazines etc.) to step in and provide support to commercial farmers to alleviate their plight. However, the response that they needed had not been forthcoming, leading to frustration and further alienation from the state, the latter expressed by one irate livestock farmer as follows during an interview:

Statistics in South Africa indicate that 20 % of the commercial farmers contribute to 80 % of food production. However, despite this, our country is still marred by the

politics of skin colour. Government promises one thing on the public arena but delivers nothing at the end of the day. As we speak, the funds that government claims to have allocated for drought relief have gone missing. Again, a few benefit and corruption takes the rest (Nataniel, interview, 2017).

Drought has had a major impact on farmers' budgets, incomes and plans for the future, including with regard to their wage bills, the general need to cut production costs and decisions around the need to diversify their income streams. At the same time, it has also increased awareness that to survive as farmers they need to adopt more sustainable farming strategies and practices with regards to the management of their farm environment. This will be further discussed in Chapter 7.

Predation

The second most frequently mentioned challenge to farming in the municipality is the problem of predation. From the survey, 34 livestock farmers and four game farmers indicated predation as a challenge, mainly from black-backed jackal and caracal, with vagrant dogs also identified as a problem on farms located close to the towns. During my in-depth interviews six farmers acknowledged that the conflict between predators and farmers has existed since the advent of settled farming. According to Jacobus, who is active in a local farmer's association:

Small livestock farming like sheep and goats provides an easy food supply for predators that don't have to put effort in their hunting. A regular supply of food has resulted in their growing numbers making predator control difficult for the farmers. [...], it's a losing battle. You kill three jackals today and three days later you wake up to the remains of one or two more sheep. These jackals, it almost feels like they are human. Sometimes you feel like they are punishing you for killing them (interview, 2017).

Controlling predators is regarded as one of the core business operations of farmers: "if you let them [i.e. jackals] flourish, you pay for it in your pocket" (game farmer Gert, interview, 2017). The main methods of predator control mentioned by farmers involved jackal-proof mesh fences, poisoning, guard animals, various frightening devices and repellents, and hunting. Predator control is not a one-man job, according to livestock farmer Rickus, but requires co-operation among farmers:

I can control the predators from my side of the fence but if my neighbour is doing nothing about it on his side of the fence, then he is only giving them a safe habitat from which they can attack my sheep and go back to his farm (interview, 2017).

Three of the game farmers I interviewed pointed out that although predators pose a risk to their valued game, the level of persecution of predators on land dedicated to game farming is less than that on livestock farms. This is because generally game animals are less docile than sheep, thus less of a “soft” target. However, if the farmer has prized game on the farm that is regarded as vulnerable to predators, the farmer will also take measures to set traps, use poison or hunt and kill the predators.

Farmers’ persecution of predators on their land has received negative publicity from environmentalists who view the hunting and killing of predators as both cruel and counterproductive, not only for the ecology more generally but also as a form of predation control. (On this see, Nattrass & Conradie, 2015.) Ecologists argue that in a natural system, predators are a key species that help maintain populations of herbivores (by limiting their overgrazing and damage to the habitat), thereby enabling a healthy balance among “all trophic levels within an ecosystem” (Schmitz, 2009).

Lack of government support

Lack of government support was ranked by farmers as the third biggest challenge they face as farmers, an issue that has become more prominent in the face of the very limited government assistance commercial farmers are receiving in facing the serious drought. The lack of government support, according to many of the farmers I interviewed, is hampering the growth of the commercial agriculture sector in South Africa. The average age of the farmers in my sample (50) means that apart from the (not insignificant) advantage that many of them have enjoyed of inheriting their land, most have not been direct beneficiaries of the state support enjoyed by the white commercial farming sector in apartheid South Africa, such as “subsidies, subsidised credit and bail-out programmes, state marketing boards, trade protection, and other related reforms including water and labour regulation” (Hall, 2009: 122).

Thirteen of the farmers I interviewed spoke very strongly about the challenges of farming without state support. Lloyd, a key informant at DAFF, also highlighted the cost pressures that farmers are facing (interview, 2017), not only from production and labour costs but also the environmental costs associated with depleted rangeland, leading to diminishing returns.

Without government support, farmers are thus faced with a bleak future if they cannot find alternative livelihood strategies. In this regard three of the livestock farmers I interviewed cited these pressures as motivating them to start thinking about also branching out into game farming.

Farmers' frustrations with government was also directed at the local government, with a number of farmers expressing undisguised annoyance at the perceived inefficiency of the Ubuntu Local Municipality, which they also regarded as riddled with corruption. Seven farmers in the survey mentioned that the poor maintenance of roads is a particular problem, one they have raised constantly with the municipality, without success – if farmers did not do something about the roads themselves, then the public roads leading to their farms would be dangerous.

Labour

The fourth most frequently cited challenge that farmers identified explicitly in my farmer survey was that of labour, with 29 responses related to this broad issue (26 from livestock farmers and three from game farmers). A range of crosscutting issues emerged in relation to labour as a challenge for farmers in my in-depth interviews, including concerns around the unreliability of farm workers, alcoholism, the cost of labour, evictions and land reform.

In terms of the unreliability of farm workers, social grants and alcoholism among farm workers were raised as concerns by several farmers. Fourteen of the farmers I interviewed face-to-face (both livestock and game) associated the system of state grants with what they regarded as the unproductive labour force in the municipality, which was also linked to the high levels of alcoholism among the farm worker population in the Northern Cape. Livestock farmer Ruan summed up widely shared views of state grants as responsible for creating a rural population that is averse to work as follows:

[...] I think you know that the social grants in our country make people not want to work because they can just go apply for any grant that they can fall into and they get it. I therefore fight a war that I cannot win with the state department and I fight a war with unproductive labour (livestock farmer Ruan, Interview, 2016).

While it could be argued that people's reluctance to be more "productive" is a result of very low farm wages, livestock farmer Nataniel maintained that farm workers are being paid at the government-gazetted amount of R15/hr (interview, 2017) – thus implying that farmers are meeting their legislated obligations and are not responsible for the social problems in the

district. Dieter, another livestock farmer I interviewed, complained that farm workers who receive social grants or have a family member who gets a grant disappear on the day they receive their money, only to be seen again after the money has been exhausted which usually does not take long because, in his words, the money is “little” (interview, 2017). The Municipal Manager confirmed that alcoholism is a major social problem in the area, especially in the town of Victoria West (interview, 2016); farmers, however, failed to acknowledge that this is a problem with a long history in the Northern Cape and/or to relate the problem to the history of dispossession and marginalisation described in Chapter 5.

As already discussed in Chapter 4, the issue of farm workers is a highly contentious one in relation to commercial agriculture in general and the game farming sector in particular, with the latter identified as responsible for an increase in farm worker evictions and the declining farm worker population. Farmers in my sample, both livestock and game, acknowledged that farm evictions are happening or have happened on most farms in the municipality. Their explanations for why this is the case covers the issues already raised in my review of the literature in Chapter 4, although, as one would expect, from the farmer’s point of view in terms of securing his investment, economic and personal, in his farm. Three main sets of issues were identified as involved in the trend towards reducing the on-farm worker population, namely, the rising costs of production, the lack of state support (already discussed) and fears around farmers’ vulnerability in relation to land reform and the perceived threat of land invasions, which is discussed further below.

Hendrick, a livestock farmer in the municipality who has cut his on-farm labour force from six to four permanent workers, summarised the views of most farmers whom I interviewed, that this was primarily a consequence of the rising cost of employment and lack of state support:

I will give you a longer answer rather than a short answer. In an area like the Karoo there is no industries, there is only farms. Everything in the Karoo is a part of farming. First if we can maintain our flocks there would be more sheep or goats, there would be a bigger income. Me as the primary farmer would benefit but my workers would also benefit. Where I used to have six permanent workers, I have only four permanent workers now. Farmers are having to shed off farm workers to cut down on the costs of hired labour. This trend has been increasing since the 90s though because farmers we are also economically stratified, this shedding of labour is happening at different times.

In the past, what happened is that when it was very dry, maize prices would go up. The government subsidised the seeding of livestock, which was a great help to the farmer,

helped in the erection of fences, drilling of boreholes. We don't want handouts but at the same time we would like to be subsidised to a certain extent. By helping the farmers, the government also helps itself. Agriculture everywhere in the world needs the support of the government. What I must mention is that we as South African farmers compete against farmers in the world who are subsidised by their governments to produce. However, we must pay for all the producing costs and yet still compete with products that have been imported cheaper than we can produce, and this is what makes agriculture very difficult (interview, 2017).

As a strategy to cut down on production costs Ubuntu farmers are shifting from permanent to temporary workers. Consistent with the general literature on farm labour, there is a thus a growing casualisation of the farm labour force in the municipality, with farm workers increasingly living off-farm (hence putting pressure on the housing and services infrastructure of the municipality's small towns). Eleven of the farmers I interviewed mentioned that they have devised a strategy of picking up labour from town when and if needed, and that these labourers only stay on the farm when this is required by the farmer. The Municipal Manager confirmed that there has been an increase in the floating labour population in local townships as a result (interview, 2017).

However, although farmers are trying to cut down on labour costs as much as possible, the four most successful game farmers whom I interviewed all indicated that because of the nature of the operations on their farms, they are having to hire more farm workers to cater for the game side of the business. These four farmers all have ecotourism and hunting operations on their farms and according to them they have also had to hire more staff across a spectrum of job categories, including in administration and security and as mechanics, field rangers and general workers and support services in their hospitality businesses. Thus, they are not cutting back on employing workers at the relatively unskilled level and are also targeting people with different skills sets from those traditionally employed as farm workers. The farmers did, however, note that some of the jobs are dependent on the season and how busy the game farms are in terms of booking for ecotourism and hunting.

Table 6.6 below provides details of the job categories and positions of workers on these farms, as reported to me during my interviews with the farmers. According to data from WRSA (2018), in 2018 an average game farm had a staff complement of 14 workers, so these four farms are operating at or above the average.

Table 6.6: Job categories and number of workers on four game farm operations

Job category	Farm 1	Farm 2	Farm 3	Farm 4
Administration (mostly family labour)	3	5	2	3
Tour guides	2	2	2	3
Drivers	2	2	1	2
Mechanics	1	0	1	1
Chefs	1	2	1	2
Security	1	2	1	2
Hospitality (cleaning, waiting, laundry, gardening etc.)	3	4	3	5
Field rangers	3	4	3	2
Total	16	21	14	20

Thus, contrary to the argument that farmers are turning to game farming to reduce their labour costs, by getting rid of workers, game farmers in the Ubuntu Local Municipality maintain, in line with industry spokespeople, that the shift to game farming can mean an increase in employment. Farmers on livestock farms that have expanded into ecotourism also indicated that they are hiring new categories of workers to work in the bed-and-breakfast and restaurant side of their businesses. For noting is that there is a gendered dimension to this, which warrants further research, inasmuch as the main beneficiaries of these new work opportunities are women.

Land reform

The politics of land reform and land expropriation was a significant issue in national political debate during my fieldwork and surfaced as an issue of concern in my interactions with commercial farmers, although, as shown in Table 6.5 above, just under half the commercial farmers in my survey (26) specified land reform as a challenge in their municipality. In my in-depth interviews nine farmers expressed their nervousness about land expropriation in the country more generally, by pointing to the land invasions and forcible ejection of farmers in Zimbabwe; as already noted in Chapter 3, my being a black Zimbabwean served as an interesting point of assumed connection around the issue of land reform on the part of commercial farmers.

Concerns around land reform were implicated in farmers' decisions around the employment of farm workers, particularly the continued employment of permanent workers living on the farm. Farmers were reticent about discussing this issue in relation to their own practices but three of

the farmers I interviewed (two livestock and one game) mentioned that there is a growing wariness amongst local farmers in relation to farm workers because of land reform. My informants pointed to fears of their and their families being brutally victimised by farm workers and farm dwellers in the event of an incited farm invasion as a factor in why farmers are exploring alternative accommodation options for their workers in the local townships.

During my interviews with game farmers, I also addressed the claim that game farmers are using conservation narratives as a strategy to avoid their farms being targeted for land reform. As I discuss more fully in Chapter 7, most farmers understand the switch as motivated primarily by the need to ensure economic sustainability. While farmers acknowledged that turning to game farming to avoid expropriation could be a motivation for some farmers, most were highly sceptical that such a strategy would be successful if the state did want to acquire their farms for land reform purposes:

When a government is being fuelled by the demands of the people, do you think crying conservation will help any farmer? (livestock farmer Jacob, interview, 2017).

When land invasions happened in Zimbabwe, did the farmers have any chance to say anything? (game farmer Gert, interview, 2017)

Uncertainty about the direction of land reform policies in South Africa, particularly with regards to expropriation of land as the main route to redistributing land, has left farmers feeling threatened and vulnerable:

It all depends on who is pushing the agenda, and whose voice will be the loudest in the end. Right now, no-one can predict how things will be precipitated (game farmer Jako, interview, 2017).

However, when asked about their thoughts on land reform as a general programme of the state, farmers did not all have the same responses. The majority were negative, citing the failure of the state to institute an orderly land reform as well as to work with and ask for input from commercial farmers; they also pointed to the wastage of government money in the restitution process. Four of the farmers who were negative expressed zero confidence in the government and told me about farmers who had opted to sell their second farms and, in some cases, their primary farms (and thus to leave farming altogether) because of the uncertainty caused by the threat of land reform. On the other hand, a minority of farmers held more positive views, with four of the farmers I interviewed reporting that they were considering giving portions of their

farms to their farm workers and/or entering into partnerships and mentorship programmes with small-scale farmers within their communities.

One of the farmers who was more positive about co-operating with land reform was an elderly livestock farmer who was involved in the Pixley ka Seme District Land Committee (DLC); the other three were young farmers (two livestock and one game), all of whom have an agriculture-related qualification. They all acknowledged that there were valid concerns around social equity and justice which needed to be addressed through a redistributive land reform programme. Howard, the member of the DLC, highlighted that the committee was constrained by its inability to acquire land for the small-scale farming sector through the ‘willing buyer willing seller’ land redistribution policy in the Pixley ka Seme District. He attributed this failure to the unwillingness of commercial farmers to sell their land and to exorbitant land prices in those instances where land was available. Mardeck farm thus remains the only small land reform project within the Ubuntu Local Municipality (interview, 2017).

According to livestock farmer Jacob, the land reform project would be more fruitful if farmers took the initiative and were proactive around the land reform agenda: “As large-scale farmers it is important for us to recognise and accept the marked inequalities in land ownership and to begin to forge a way forward that does not have to be violent” (interview, 2017).

6.2.2 Coping strategies

As a follow-up to the question on the challenges farmers are facing, my background survey also asked respondents to list the coping strategies that they are utilising in terms of expanding their production, increasing their farm efficiency, utilising their resources sustainably or, in some cases, just surviving and maintaining a viable farm unit. Survey respondents mentioned four main methods, out of which good farm management practices and diversified income portfolios were the most commonly cited. Twenty-three of the farmers pointed to land consolidation as an important coping strategy (for those who could afford it) while eleven signalled that in addition to whatever they themselves were trying, they also had to place their trust in God. Table 6.7 below summarises the responses.

Table 6.7: Coping strategies by farmers in the Municipality

Coping strategy	Livestock farmers (46)	Game farmers (11)	Total (57)
Good farm management practices	37	11	48
Diversified income portfolios	34	9	43
Land consolidation	14	9	23
Trust in God	9	2	11

**Multiple response question*

Each of these coping strategies are briefly discussed below; a more in-depth discussion of how these strategies play out in the two different sectors (livestock and game) follows in Chapter 7.

Good farm management practises

According to both the livestock and the game farmers I interviewed, good farm management practices are the key to ensuring a farmer's survival. In their view farming is first and foremost a business undertaking; most of the farmers I interviewed stressed the importance of proper planning and well documented audit trails for measuring inputs and outputs, as well as having both short- and long-term goals to guide one's decision-making. Good farm management was also understood in terms of managing the environment optimally, through good veld management, including projects to restore degraded veld and manage for water scarcity. Farmers' recognition and understanding of sustainable agricultural management is discussed further in the following chapter.

Diversified income portfolios

For many farmers good management practices and diversified income portfolios are linked – this, indeed, is a major reason for some switching to mixed farming involving game farming, or to crops such as garlic and lucerne. Risk management is at the core of the motivation to diversify.

In addition to decisions around their primary productive activity, farmers are looking to diversify their income streams through value-adding activities such as cheese making, taxidermy, leasing out some of their land and offering sheep shearing services to other farmers. Three livestock farmers and one game farmer indicated that they have off-farm investments in local and international share portfolios; two livestock farmers indicated that they own

businesses while two part-time farmers have jobs, either locally or outside the municipality. Wealthier farmers are hiring farm managers to free up their time to concentrate on other activities and/or manage their farming operations in more than one location. Farmers are also utilising family labour and encouraging family members to engage in different activities on and off-farm, including running restaurants and bed-and-breakfast facilities in the local towns, so as to diversify their incomes and avoid being completely dependent on farming.

Land consolidation

As already discussed, there are signs of land consolidation in the Ubuntu Local Municipality. While farmers recognise the advantages of having more than one farm, or expanding one's farm by buying up adjacent properties, it is also a source of tension among them. Two farms acquired in 2010 and 2013 respectively by farmers from outside the municipality, for the purposes of game farming, were singled out in this regard. During interviews, some of the older livestock farmers referred to the farmers moving into the district rather disparagingly as “*incomers* coming in with their new ideas”. They are concerned because the area is suited to livestock farming and they fear that introducing game will deplete the veld – “especially those rhinos” one of the farmers noted, implying I knew exactly which farm he was referring to. The ability to acquire more land in the area was also linked in a negative way to having an unfair advantage in terms of both money and influence:

Though most farmers would like to get more land, not all farmers can afford it. Further, even if you have the money getting a farm in this area is a bit of competition. Only the who-is-who manage to get their hands-on land on the market.

Farmers who do not have the financial resources to buy more land are opting to rent farmland from their neighbours or in separate locations as well. There was, however, an awareness amongst farmers that having more land does not automatically translate into financial sustainability because good management of the land is still essential.

Trust in God

Trust in God was also mentioned as a coping strategy by 11 respondents in the farmer survey. According to a religious minister in Richmond, faith is a core dimension of the identity of the farming community in the district: in times of long dry spells, farmers turn to God pray for rain

(interview, 2017). The church was also singled out by four of the farmers with whom I had in-depth interviews, as a symbol of continuity and a significant influence on values and behaviour. In exploring farmers' definitions of the different terms that I put to them, such as sustainable agriculture and sustainable development, it became clear that for many of them their religious faith was an important dimension of their social identity, an issue which is discussed further in Chapter 7. The following quotation from an interview with a livestock farmer captures the way in which faith and farming with nature are entwined in many farmers' coping strategies:

Men must have something to believe in, failure to have that may determine his fate. This area has been prone to extreme natural calamities, do you know there was a flood in Victoria West around 1870? Families perished, property was destroyed, and livestock lost. The damage was immense, but one thing kept the community from disintegrating, faith. This is a harsh place, failure to farm with the environment is a recipe for failure (livestock farmer Manus, interview, 2017).

There are interesting resonances here with the observation by Genis (2015) that farmers in her study regard surviving in commercial farming as a matter of luck. Although the invocation of luck does not attribute one's fortune to a higher power, there is a similar awareness that good fortune is not an outcome of individual actions alone.

6.3 Conclusion

This chapter has explored the profile of farmers within the Ubuntu Local Municipality and their histories of land ownership. Understanding who they are and how this influences their decision-making in relation to farming, as well as their views on the challenges they face and their coping strategies, is important for understanding the trajectories of change within the commercial farming sector in my research site. The white commercial farming community has been stable in terms of membership and inter-generational inheritance of land for much of the 20th century, with some signs of change in recent decades. A process of land consolidation is evident. Environmental pressures in the form of drought and predation emerged as the major challenges farmers face but their views on these challenges are tied up with their sense of alienation from the state and their fears of a land reform programme that may destroy their livelihoods. These fears are informing the decisions they are taking with regards to farm planning and management.

While commercial farmers acknowledge the importance of the sustainable use of natural resources for coping with the many challenges they face, most of the farmers I interviewed regarded issues relating to social justice in relation to their workers and/or the need for land reform as threats rather than opportunities for ensuring their survival. Those who are shifting to game farming tend to be younger and better educated, as well as to have more financial resources at their disposal, than those staying with game farming, but there was a widespread awareness of the need to adapt to new circumstances and uncertainties across both these groups of farmers. These issues are taken forward in the next chapter which looks more directly at farmers' views on game farming, biodiversity conservation and sustainable agriculture.

Chapter 7: Game farming, sustainable agriculture and biodiversity conservation

In this chapter I discuss the considerations that commercial farmers in Ubuntu Local Municipality are weighing up in deciding whether to make the switch to game farming or to remain with livestock farming and reflect on the extent to which concerns with sustainability and biodiversity conservation are factored into these assessments. This chapter thus addresses the cluster of research questions on the risks and benefits commercial farmers associate with game farming and the extent to which concerns around sustainability and biodiversity conservation are important considerations or post-facto justifications and/or legitimations of more commercially and/or politically driven decisions.

Section 1 presents my findings on the farmers' understandings of sustainable development, and of sustainable agriculture as a component of that, organised in terms of the three dimensions of sustainable development presented in Chapter 2. Section 2 turns to farmers' views on the relative merits and disadvantages of livestock and game farming in the Ubuntu Local Municipality area and their understandings of the relationship between game farming and conservation in this mix. Section 3 addresses farmers' views on the contributions of the game sector to biodiversity conservation.

7.1 Commercial farmers' understandings of sustainability

In exploring farmers' knowledge of and awareness around the discourse of sustainability, I asked the participants in my background survey about their familiarity with the terms 'sustainable development', 'sustainable agriculture' and 'biodiversity conservation'. All 57 respondents indicated that they were familiar with these terms. They were not asked to define the terms in their responses, as this question was designed as an indicator of whether I could use the terms during my in-depth interviews with individual farmers, which I regarded as a more appropriate method for probing meanings and understandings of these concepts.

All 25 of the farmers I interviewed face-to-face identified the goals of sustainable development and sustainable agriculture as intertwined. All of them also claimed to be practising sustainable

agriculture. However, in terms of the tripartite understanding of sustainable development discussed in Chapter 2, their understanding did not extend to including social issues as a significant dimension. The overwhelming majority of the farmers – 21 of the 25, livestock and game farmer alike – referred to the economic and environmental dimensions of sustainability from a farming perspective, i.e. in terms of how they were inter-related in their farming practices and management strategies. In this they reflected the conventional understanding of sustainable agriculture put forward by agricultural institutions and experts already described in Chapter 2. Only four of the 25 farmers I interviewed addressed all three dimensions in their accounts (the environmental, the economic and the social) – the elderly livestock farmer who is a member of the Pixley ka Seme District Land Committee (DLC) and the three young farmers with agriculture-related qualification whom I have already referred to in the discussion on land reform in Chapter 6. Farmers' understandings of the different dimensions are explored below.

7.1.1 Sustainability and the environment

Ubuntu commercial farmers in my sample associate sustainability primarily with farming practices that ensure sustained yields that will allow them to continue operating as commercial farmers. For them agriculture is the basis of human existence; thus, they acknowledge that ecologically sound practices are important for conserving the primary resources that make farming possible, in their case the veld in the first instance, but also water resources. Farmers pointed out that as farmers they must know all the plants and animals that are found on their land; the geology, soils, altitude and topography are also all-important influences on the veld management strategies they adopt. Also, as already discussed in Chapter 6, farmers' views of themselves as custodians of their land, with a duty to pass it on in good condition to their children and grandchildren, plays a role. In the words of livestock farmer, Hendrick: “without our land, we cease to be people with meaning in life” (interview, 2017).

Within this framing there is an awareness of the importance of biodiversity, associated most strongly with maintaining the quality of the veld to sustain the animals with which the farmer is farming:

Jy kan onderskei tussen 'n goeie of slegte boer by die toestand van sy veld [You can tell a good farmer from a bad farmer just by looking at his veld] (livestock farmer André, interview, 2017).

Game farmers in the Ubuntu Local Municipality do regard themselves as making a particular contribution to biodiversity conservation, associated primarily with the conservation of individual species of game that would otherwise be much reduced; however they also pointed to an increase in local bird populations and the riverine rabbit in the Loxton area, along with more sightings in the Victoria West area, as positive by-products of game farming. A number of farmers proposed that the contribution of game farming to the conservation of these species warrants more serious research. Five of the seven game farmers I interviewed stated that game farming has increased the area of land in which wildlife is protected in the province, thus associating themselves with the principles of private stewardship of natural resources, even if they are not formally involved in particular initiatives. As already noted, this is an argument that the WRSA is putting forward strongly.

The official I interviewed at the Department of Environment and Nature Conservation also viewed game farming as making a positive contribution to conservation in the region, given how limited the extent of formally protected areas in the Northern Cape is. However, three game farmers acknowledged that getting the right “balance” between profitability and conservation is not always easy and noted that some game farmers in the Ubuntu municipality are guilty of stocking “exotics” and not managing their veld well. For example, as mentioned in the previous chapter, there is some criticism among farmers of a particular game farmer in the area who has stocked his farm with rhinoceros, which the critics consider an exotic in the municipality.

The primary motivation for farming sustainably thus concerns the profitability of the farming operation: protecting the environment is a means to an end, not an end in itself, and the conservation of species that are not core to the farming enterprise is a happy by-product. As game farmer Gert put it:

A farmer’s livelihood is derived from the land, failure to take care of this resource may make or break a farmer. A wise farmer knows that his success as a farmer comes from respecting the land from which his livelihood is derived (interview, 2017).

This is true for both livestock and game farmers. In interviews farmers identified a range of strategies that they associate with farming sustainably by conserving their primary resource, the veld. The primary strategy for livestock farmers is rotational grazing while game farmers are more focussed on respecting appropriate stocking rates (discussed further below).

As indicated in Chapter 6, successful farming is seen as management-centred and if farmers are to use their farms optimally, without degrading the veld, they need to be informed about the best management strategies for the veld on their individual farms. As also previously discussed, education plays a role in shaping farmers' approaches to veld management. Although they rely on the local ecological knowledge passed from generation to generation, there is an openness to experimenting with new methods of farming that are seen as beneficial for the health of their land, particularly among the younger and better educated farmers. This cohort indicated that there is a movement towards more science-based ways of planning and land management amongst younger farmers as well as some more open-minded, older farmers. For example, livestock farmer Ruan, who is 44 years old and has an agriculture-related bachelor's degree, formed a study group for interested farmers, to meet once a month with agricultural extension officers and researchers from different organisations to discuss pertinent issues related to farming. Ruan explained to me that it was easy for him to organise the group because he is seen as a successful farmer – since he took over the family farm from his brother in the year 2000, the farm has flourished and today it is seen as one of the most successful in the area. Other farmers are therefore very willing to share farming experiences in the group he has organised, in the hope of learning things that will benefit them on their own farms.

Farmers do have a strong sense of “change” and the need to adapt to it, with environmental and economic changes seen as both relatively easy to identify and possible to respond to at the farm level. As explained by livestock farmer Marko:

Change is imperative in the adoption of sustainable agricultural practices. Change in the way that farmers think, change in the way they have always done things and, it is of importance to know that this change must also be motivated. Farmers must be motivated towards sustainable agriculture through farmer exchange programmes, knowledge sharing, participation in farmers' associations and local government to support through local municipalities (interview, 2017).

A game farmer stressed the importance of adaptability:

It is important for farmers to know that sustainable farming practices vary by not only ecological factors (region, climate, soil types etc) but also time. Time in the sense that the political, economic and ecological conditions in which farming must take place are always evolving. Furthermore, though sustainability is also about ensuring the availability of resources for future generations, there is no knowing what would be sustainable in 50 years' time. Perhaps these semi-arid regions in 50 years' time will be

much more desirable for some new land uses at the time (game farmer Daan, interview, 2017).

Changing weather patterns (discussed further below) have made farmers more aware of the importance of managing their land for resilience. According to livestock farmer Luke, consciousness of the impacts of weather on the land has put pressure on farmers either to manage their rangelands in sustainable ways or to risk permanent damage of the veld. Livestock farmer Hendrick noted that while some farming practices can change overnight, other changes will be more gradual (interview, 2017). He advocated context-specific sustainability assessments that would ensure that farmers understood the impacts of their farming practices on their farms while recognising that although some impacts might not be visible in the short term, they would be felt over the longer term (livestock farmer Hendrick, interview, 2017). At the same time there was an awareness that the future is uncertain, making it difficult to know what sustainable land use will mean in years to come, as game farmer Daan's comment quoted above, about the possibility that there could be some "more desirable" land use for "these semi-arid regions" in fifty years' time, suggests.

Farmers views on climate change

In terms of climate change, the prominence of drought as a major challenge for Ubuntu farmers has been emphasised throughout this dissertation. To understand Ubuntu farmers' views on the changing weather patterns and impacts of climate change in their area, I asked the respondents in my survey to comment on selected weather patterns that they have observed in the municipality over the last 20 years in terms of whether the frequency/intensity of the weather phenomena had increased or decreased in this time, or more extreme patterns had become visible. Table 7.1 below reflects farmers' responses, listed in order of the extent of agreement that there have been changes.

The table shows broad but not unanimous agreement that extreme weather events have become more frequent and more extreme, while rainfall has declined. Views on whether temperatures have increased were, however, more mixed, with 24 survey respondents agreeing that they have increased and a further two seeing 'extreme patterns' with regard to temperature, but 22 considering there has been no change. Wind patterns were not seen as having shifted significantly by a little over 60 % of the survey respondents (by 36 of the 57 respondents).

Table 7.1: Farmers' views on changes in weather patterns in the last 20 years (n= 57)

Weather pattern	Has increased	Has decreased	Extreme patterns observed	No change observed	Don't Know
Frequency of extreme events (floods, droughts, storms etc.)	34	4	13	4	2
Intensity of extreme events (floods, droughts, storms etc)	31	5	14	5	2
Precipitation/ rainfall	9	35	8	3	2
Temperature	24	3	2	22	6
Wind patterns	11	3	5	36	2

Coping with drought has been a key consideration in farmers deciding to diversify their farming operations, including through game farming. As explained by Adam, a game farmer:

Farming is the primary income for most of the farmers in this region. Previous experience of droughts in the region have made farmers warier of investing all their capital in one form of production. Shifting part of my land holding to game farming creates safety nets and more sustainable incomes in the face of climate change and variability in farming seasons (interview, 2017).

Game farmers I interviewed regarded game as “naturally” more resilient to extreme weather events than livestock farms. However, farmers also pointed out that there is a need for more research to be done on the impact of climate change on game. Furthermore, while drought and broader concerns around climate change are implicated in Ubuntu farmers' decisions around game farming, these are not the only considerations, as the discussion in section 2 below shows.

Farm veld management practices and strategies

Farmers I interviewed were very aware that the wildlife/ livestock management practises they adopt have a direct bearing on natural resources, an awareness that has been reinforced by the recurring drought. Veld management according to the farmers is a crucial dimension of the running of any farming operation in the area, whether livestock or game: a sustainable farmer, noted Lloyd, the DAFF extension officer, must ensure that the veld provides enough food and nutrients for his animals (interview, 2017). This means that it is imperative for farmers to ensure that they do not overstock, hence overgraze and trample, their farms.

All the farmers I interviewed demonstrated knowledge of the grazing capacity and the optimal stocking rates for their farms, drawing on prevailing calculations in the commercial farming industry. The average grazing capacity for sheep in the Ubuntu Local Municipality, according to the farmers I interviewed, is between 4-6 ha. per sheep while for large stock units (cattle) the average grazing capacity is one unit per 20 to 26 ha.. However, degradation of the veld is resulting in the need for more hectares to be allocated per livestock unit, which is one of the reasons behind the land consolidation happening in the commercial agriculture sector in the Northern Cape province (Lloyd, DAFF Extension Officer, interview, 2017).

At the same time, Patrick from the Department of Environment and Nature and Conservation cautioned that there remains a gap between the science and practice, with both livestock and game farmers in the province being known to overstock their farms at great cost to the veld. Furthermore, he also highlighted that although the switch to game farming on a particular farm might lead to the recovery of a landscape that has been degraded by poor livestock management, game farms can still be degraded as a result of poor game management – it is thus not a panacea. Elvis at SANBI also emphasised that working with the established carrying capacities and stocking rates may not guarantee sustainable land management into the future: climate change is undermining the validity of the established information that is known to and accepted by farmers. Furthermore, given that game is migratory by nature, keeping them in the confines of a game farm may mean that some of their feeding habits have been altered through captivity, which could affect conventional carrying capacity estimates (interview, 2017).

According to farmers, learning the basic techniques of veld evaluation is necessary for assessing rangeland problems that include erosion, overgrazing and the spread of invasive alien species. The primary rangeland management strategy for livestock farmers is rotational grazing, in which farms are partitioned into different camps through fencing and livestock is moved from one camp to another at set intervals, depending on the farmer's grazing strategy. According to livestock farmer Hendrick, the flat areas of his farm normally have the best forage and are liked by animals. He therefore grazes his animals on these areas in winter, followed by the plateau areas and then his mountain camps. Some farmers said that the rotational grazing system simulates the "herd-effect" grazing patterns of wildlife in the Karoo, before the era of settled agriculture, which involved a sequence of high impact grazing in a particular area, followed by a rest period when the game migrated elsewhere. According to these farmers rotational grazing is thus a "natural" way of farming in this arid environment. However, this strategy is not without costs, including for fencing, labour and the provision of water facilities

in each camp. The costs incurred in the livestock rotational grazing system “are only outweighed by the benefits of sustainable utilisation of the resources available for use by the farmer” (livestock farmer Neill, interview, 2017).

Two of the livestock farmers I interviewed indicated that they use a continuous grazing system, in which their livestock grazes on the veld all year without any controls over its movement. This choice has been determined largely by the size of their farms which are on the small side (674 ha. and 1,300 ha. respectively). One of the farmers is a retired professional who has taken up farming more as a hobby more than a significant income-generating occupation. Continuous grazing is cost efficient, according to these two farmers, as it reduces the costs associated with labour, fencing and water points. To ensure that the veld is not over utilised they said they adhere to the carrying capacities of their farms and are strict about observing stocking rates.

Game is not easily rotated in a grazing camp system like livestock; hence sustainable veld management on game farms involves a different set of practices. Because game grazes continuously on the veld farmers need to control their numbers. According to game farmer Daan, to ensure that the veld is given a chance to rejuvenate during the rainy season, this means making sure that game numbers are always below the recommended stocking rates (interview, 2017). By its nature game does not require intensive management – once released on the veld it can take care of itself. However, a farmer still has to ensure fences and water points are maintained, supplementary feeding is in place if needed and predators controlled. The farmer also needs to address the relationship between herd size and resources by carrying out regular game counts to ensure the carrying capacity of his game camps is respected and overstocking avoided. The downside of game farming is that if numbers are not controlled continuous grazing may result in the depletion of the most palatable parts of the game camps (Kennedy, interview, 2016). Monitoring of animal health and breeding, to ensure that quality animals are being produced, is also important while managing the hunting, ecotourism, game sales and translocation sides of the business are all management intensive.

Game farmer Daan told me he was interested in experimenting with rotational grazing for some of his game species, but this would require very large farms and considerable capital:

I've been talking to some guys in the Eastern Cape who have successfully implemented rotational grazing on their game farms. Mind you, these are purely game farming operations and much more extensive than my own farm which makes it much more practical. They said they did it by partitioning their farms into sizeable camps like with

livestock and then put up internal game fences. Between these camps they put in gates that can be opened and closed at different times. All these camps have water points, now this is how it works. To encourage their game to migrate to the other camps, they shut off the water points in the camp that they want to rest. The lack of water will prompt the game animals to migrate in search of water, at which point once they have all tracked into the neighbouring camps, they close the gates (interview, 2017).

However, although rotational grazing was likely to have positive benefits for the veld, Daan pointed out that because of the capital involved (to invest in both the land and fencing) most farmers would be deterred from trying it. For this reason, observing stocking rates remains the most important management strategy for game farmers in the Ubuntu Municipality.

Interestingly a number of the game farmers I interviewed mentioned that it was particularly important for them to observe sustainable management practices because of the growing criticism that the industry is facing from conservationists. In reflecting on their journey to game farming four game farmers noted that although it had involved trial and error at different points, it was very useful to have the environmental impact assessment done by the Department of Environment and Nature Conservation which, inter alia, determines suitable species and optimal stocking rates for individual farms; it helps farmers avoid wasting a lot of money because of ignorance. Three of the farmers who have switched to game farming in the past ten years mentioned that the journey was probably smoother for them than for those making the shift earlier, because they were able to learn from the mistakes of the pioneering game farmers in the municipality and build on those farmers' experiences in their own farming operations.

Referring to some farmers who make the same mistakes in the way they manage their veld over and over again, game farmer Daan commented: "A fool and his money are soon parted" (interview, 2017). Game farmers were, however, convinced that if game farming is practised well it has the potential to reverse damage caused by livestock. As highlighted by Bothma (1989), optimal habitat condition is the most important requirement for the establishment and maintenance of game populations. Stocking game farms with varied species means there is a broader utilisation of vegetation compared to the limited grazing patterns of livestock. Furthermore, if sufficient watering points are available, there is less trampling of the veld at water points. Game tends to be more scattered on a farm, unlike sheep that move as a herd. Thus, with proper ecological management, game farming has the potential to protect habitats and conserve biodiversity. However, if poorly managed or if the profit motive overtakes

sustainable thinking, game farming may also result in irreparable damage to the veld, as already pointed out (Patrick, Biodiversity Officer, interview, 2017).

7.1.2 Sustainability and economic concerns

Of the 25 farmers interviewed, 21 linked economic sustainability to profitability and the economic well-being of the landowning family. According to livestock farmer Dieter:

For a farm to be sustainable it must be economically viable, producing enough of a return to meet the needs of first the farmer and his family and the requisite costs associated with production (interview, 2017).

For Manus, “farming is a business like any other business, profit making is the bottom line”:

For me to say I am a successful farmer, this is measured in terms of output from my farm within any period (interview, 2017).

Both livestock and game farmers in the Ubuntu Municipality measure the economic sustainability of farming in terms of production output which is directly linked to the income the individual farmer and his household derive from his farm. Economic sustainability understood in terms of community, national or global economic concerns did not feature directly in farmers’ reflections on sustainable development, although their view of themselves as making an important contribution to the local and national economy, as employers and as farmers producing food and other agricultural by-products (which they felt was not adequately recognised by society) did emerge in the course of my interviews.

At the same time, the relationship between respecting the environment and ensuring economic sustainability as the farmers understand it is a complicated one. A number of farmers cautioned that the increasing cost of living is adding to the pressures they are facing and pushing them to over-exploit the environment in an effort to maintain their accustomed standard of living:

Some farmers have abused the land. As I mentioned before the temperatures are going higher and higher and this has affected the amount of rains we receive in the area. This combined with all the fluctuations on the local and global markets has resulted in the overexploitation of the environment with hopes to maintain or increase productivity from the land (livestock farmer Manus, interview, 2017).

Furthermore, the often-competing demands around farming sustainably mean that, in the words of George, a local farmer and representative of Agri-SA in the province, “farmers must choose

the principles of farming that they adhere to”. He reflected on the tensions between short-term gains and long-term losses as follows:

In some cases, these principles might have short term gains but with long term negative impacts on the environment. Though economic viability is key in sustainability, it cannot take precedence over everything else. Farmers must be able balance their economic self-interest with respecting the environment (interview, 2018).

From this perspective, because farmers are having to contend with a range of pressures (economic, political and environmental) which are squeezing their profit margins, their ability to run their farming operations as optimally as they might like is being compromised. To cope farmers are having to reduce production costs which, as already discussed in Chapter 6, is impacting negatively on the local economy, most directly in terms of the loss of farm worker jobs which often goes hand in hand with the loss of farm workers’ housing. Most farmers I interviewed acknowledged that farmers are cutting down on permanent workers and relying more on casual labour, which is cause for concern given the high levels of unemployment in the municipality. A number also expressed regret that this was happening but saw it as unavoidable:

There is so many people who depend on the farms for work. Farming as you know has been the foundation of some of these towns and it is therefore the duty of famers to give employment to the local communities. It is unfortunate that with the difficulties that farming is facing we must rely more on casual workers. It does not give us pleasure to see the tears and sadness when we must let them go (livestock farmer Marko, interview, 2017).

The extent to which the loss of farm worker jobs is being offset by the creation of new job opportunities is, as discussed in chapters 4 and 6, a matter of debate, but the impact on the ability of the retrenched/evicted farm workers to meet their “basic needs” is severe. On this point Patrick, the Biodiversity Officer, argued:

There has been exaggeration by anti-game farming activists and writers on the purported dispossession of farm dwellers and workers on game farms. Though game farmers have also had to reduce employment because of socio-economic and environmental challenges, game farms have opened avenues for more employment for the rural communities. Like all other farm types; livestock and crop farms, game farmers also must be conscious of how much labour they can employ at any time and

this varies from permanent labour, part time, occasional etc (Department of Environment and Nature Conservation, Interview, Kimberly, 2017).

At the same time, economic stratification amongst commercial farmers is evident, with farmers who have access to capital being able to consolidate their land holdings and diversify their livelihoods, including through turning to game farming and irrigation farming, both of which are capital intensive, while other farmers who have run out of credit and can no longer service their debts are going out of business. Obviously all the farmers I interviewed were still in the business but from observations and general discussion I was made aware of the financial strain under which many Ubuntu farmers are operating, which has resulted in several cases of what could be considered forced sales of farms in the municipality in recent years. As pointed out by livestock farmer Jan, “this period of environmental distress has been instrumental in revealing just how differentiated in terms of income this sector is. Some farmers will come out of this time unscathed, while others will lose their livelihoods” (interview, 2017).

7.1.3 Sustainability and social concerns

Significantly, as already noted, very few farmers focused on social sustainability in their discussion of what the concept of sustainability means to them. As already mentioned above, only four of the 25 farmers I interviewed addressed social issues in reflecting on their understanding of sustainable development and sustainable agriculture. For the majority of farmers, sustainability involves balancing economic and environmental concerns, with the social issues that are of concern in the municipality not part of their responsibilities as farmers.

For the farmers who did address the social dimensions of sustainability, the issues that most concerned them related to the welfare of farm workers, the provision of employment and fostering relationships with black small-scale farmers through mentorship programmes and partnerships. Farmers’ views were generally filtered through a benevolent but nevertheless paternalistic understanding of their relationship with their employees on their farms and contribution to improved “race relations” in the farming sector. In his capacity as employer and landowner the socially responsible farmer views himself as bearing the responsibility of caring and providing for his workers. For example, as noted in Chapter 6, some farmers are acquiring accommodation for their farm workers in the local townships. In this way the farmers feel they are doing their duty in ensuring the wellbeing of their displaced workers while also ensuring their own security on their farms.

Zulu, in his study on commercial game farming, observes how relationships on the farms are structured around the farmer being the “benefactor and the farm worker his willing dependent” (2015: 90). Atkinson (2007: 94) has described this system of paternalism on commercial farms as constituting a “micro-welfare system”, which the following quotation from one of my interviews reflects:

These people you see working here have been here for a long time. They cease to be just workers and you begin to like some of them. As the owner of this farm, it is my duty to make sure that I also treat them fairly and give them a good salary. I have taken it upon myself to make sure that I pay school fees for some of my workers children because I see the importance and opportunity it gives them. There is one boy here Elias, he did so well at school, and I paid his way all through to an Agricultural College in Middelburg. When he was done, he asked to come work with me and I made him a farm manger. He was so good that I recommended him as a beneficiary to one of these land reform projects in Vosburg (livestock farmer, Diedrick, interview, 2017).

The issue of land reform as a key requirement for social justice and a more sustainable farming sector is, as the discussion in Chapter 6 has already made clear, an issue that the majority of commercial farmers see as a threat, not an opportunity or something they need to engage even if they are fearful of it. However, as already noted, a couple of farmers did recognise the importance of land reform and of assisting small-scale farmers who are struggling with insufficient land and lack of support from the state:

Though issues of land reform are making most farmers uncomfortable, it was bound to happen. If it has happened in neighbouring countries, why wouldn't it happen in South Africa. In my own capacity and other farmers are doing it as well, I've engaged in mentorship and partnership with some local small-scale farmers and have given them access to land to use for their own livestock. As farmers it is best for us to address some of these social issues that have tarnished this sector of agriculture by being proactive (livestock farmer, Howard, 2017).

At the same time, while not linking this explicitly to land reform as a social imperative, most farmers expressed an awareness of the land constraints small-scale farmers are facing in the municipality and its consequences in terms of land degradation on the municipal commonage.

7.1.4 Institutional support for sustainable agriculture

Farmer organisations and sustainable agriculture

In my interview's farmers were asked about the role of farmers' associations in promoting sustainable agriculture. Farmers' responses focused on the important role these organisations can play as channels of communication, able to filter research outputs and information from the national level to farming communities. As highlighted by a livestock farmer in Victoria West:

if not for the group interaction facilitated by Farmers Associations, we would remain isolated from the outside world for months on end (livestock farmer Dieter, interview, 2017).

According to Anton, a key informant at a local law firm, collective action by commercial farmers is an effective tool for representing their interests and farmers' associations play a vital role in this regard in terms of informing agricultural practices and influencing national policy in South Africa (interview, 2017). A key informant at AgriSA also emphasised the importance of information being made available inexpensively to all farmers, regardless of the remoteness of their location, through the Association (Cain, interview, 2018). In this regard, Patrick, the official in the Department of Environment and Nature Conservation, had this to say about the responsibility for addressing the ecological concerns around the game farming sector:

I am aware of the concerns around the management of game farms and the impact this may have on the environment. There might be a knowledge gap in how to sustainably manage game farms for some farmers. Some farmers who've shifted to game farming might have thought the management of game would be like livestock farming. However, as has been demonstrated in various research, game farming requires certain skills from farmers. And this in my view is where wildlife ranching associations should step in with information and workshops to teach game farmers and would-be game farmers on the tenets to manage a sustainable game farm (interview, 2016).

As discussed in chapters 2 and 4 of this dissertation, the contribution of game farming to the green economy in South Africa has been questioned with regards to its environmental impacts. As suggested by Patrick, WRSA and other organisations have a role to play in addressing these issues through sharing research, informing and educating farmers around game management. Given the attrition around state extension services to commercial farmers, farmer associations/organisations are a major source of support services for farmers, facilitating

farmer discussions, workshops and farmer exchange programmes at which farming techniques, strategies and innovations are shared and discussed. Regular emails sent to farmers from their Associations also keep them updated on issues affecting farmers socially, politically and economically from the national to international levels and provide platforms for discussion and debate on issues of concern to farmers.

In my survey, farmers were asked if they belong to any farmers associations/ organisations and to list those of which they are members. As shown in Table 7.2 below, the associations that are present in the Ubuntu Local Municipality extend across the local, provincial and national levels.

Table 7.2: Farmers Associations listed by farmers in the farmer survey

Local	Provincial	National
Swaelfontein Farmers Association	Central Karoo Farmers Association	SA Jagters
Victoria West Farmers Associaton	Red Meat Producers Organisation	AgriSA
Wagenaarskraal Farmers Association	Agri Northern Cape	Professional Hunters Association of South Africa (PHASA)
Richmond Farmers Association		Wildlife Ranching South Africa (WRSA)
Loxton Farmers Association		National Wool Growers Association (NWGA)
		Dorper Sheep Breeders Association

The role of local government

This mandate of the local government is enshrined in the Local Government Municipal Systems Act of 2000 which stipulates that Local Government Municipalities must draw up five-year Integrated Development Plans (IDPs). In an interview the Ubuntu Municipal Manager listed the mandate of the municipality in sustainable agriculture as:

1. The provision of basic services that support farming in the municipality, such as infrastructure development. and the maintenance of roads;

2. Encouraging development projects that “enhance the profile” of the municipality without detracting, depleting or endangering the key resources in the area;
3. Environmental management that includes the control of invasive species;
4. Providing extension services to farmers that include the hosting of agricultural forums and discussions and offering training and support services (interview, 2016).

However, though the role of the municipality in supporting sustainable agriculture within its area is clearly stated, there is a marked gap between policy and practice. One of my observations during my fieldwork was that the municipality was unable to help me with any information on the commercial farming sector in terms of statistics, general information or useful contacts; they clearly had no database on this major sector of the local economy, nor the capacity to engage with it with any authority. They were, however, more active in relation to the black small-scale farming sector although, as is discussed in the next chapter, small-scale farmers were also frustrated by the lack of support they felt they were receiving from local government structures.

The general feeling amongst local commercial farmers is that the local government has failed in its mandate which they attributed to a mix of corruption (the misappropriation of public funds), inefficiency and a lack of commitment to perform better. Four of the farmers I interviewed mentioned “the race issue” as underlying the tensions between the (white) commercial farming sector and the (predominantly black) municipal government. A key informant in the Ubuntu Local Municipality (who preferred to remain anonymous on this issue) confirmed the salience of race in the tensions between commercial farmers and municipal personnel, which he attributed to resentment among the latter about the privileged position that white farmers still hold within the community. This has limited prospects for collaborative actions that could foster development in the municipality.

7.2 Farmers’ motivations for shifting to game farming or staying with livestock

Though the switch to game farming has been slow within the Ubuntu Local Municipality, the shift towards it mirrors wider trends in South Africa. The move towards game farming in the municipality began in 1991 when a pioneering game farmer (Gert) realised the potential of bringing different species of game onto his farm. As the owner of an already established guest farm, he saw the potential in the eco-tourism pillar of the game industry. Although he

introduced new species (gemsbok, blesbok, sable, zebras and wildebeest) onto his farm, he notes that plains game such as springbok, kudu, and steenbok was already present on his farm, as with many other farms in the municipality.

As already described, game farmers are a minority in the Ubuntu Local Municipality, with only 11 of the 57 farmers in my survey categorising themselves as such, thus just over 19 % of the total – a figure that my subsequent discussions with key informants indicated can be considered to be a fair representation of the sector in the municipality as a whole. However, given the interest in the potential of game farming among especially younger farmers, the likelihood of more farmers shifting to game farming in the future seems strong. At the same time, the game farmers I interviewed face-to-face identified themselves as “mixed” rather than “pure” game farmers, with livestock still an integral part of their livelihoods; reasons for this included needing to keep livestock as a source of income during the establishment phase of game farming and having a safety net in uncertain times, by “not putting all one’s eggs in one basket”.

In my background survey I was interested in probing farmers’ views on the relative merits of livestock and game farming and the reasons why farmers are or are not making the shift to game farming, in part to compare their views with what critics of the game farming sector are saying about farmers’ motives. I therefore asked both sets of farmers in my survey what they think the reasons are for why some farmers are staying with livestock farming and others are switching to game farming. These were open-ended questions. Table 7.3 below summarises the responses to the first question and Table 7.4 the responses to the second, both tables showing the farming identity of the respondents. I then probed these answers further in my in-depth interviews with farmers.

Table 7.3: Reasons for livestock farmers staying in livestock farming

Reason for staying in livestock farming	Livestock farmers (46)	Game farmers (11)	Total (57)
Tradition/ passion	34	8	42
Good veld for sheep farming	31	7	37
Stable income	23	4	27
Capital constraints	17	4	21

**Multiple response question*

Table 7.4: Game farmers' motives for switching to game farming

Motive	Livestock farmers (46)	Game farmers (11)	Total (57)
More profitable than conventional farming	30	11	41
Drought	26	9	35
Generally, less demanding than livestock farming	23	7	30
Less labour intensive than livestock farming	23	3	26
Stock theft	15	3	18
Biodiversity conservation	11	6	17
Recreational farming	12	0	12

* Multiple response question

What these tables show is that livestock farming is associated by both livestock and game farmers with “tradition” while game farming is associated by both groups with being more profitable, if you can break into it. Notably all 11 game farmers in the survey were in agreement that this is a significant reason – the only issue on which there was complete unanimity among the members of this group. Interestingly, however, while a number of livestock farmers thought that some game farmers were in it primarily for “recreational” purposes, no game farmers identified this as a reason through my survey; one of the game farmers I interviewed, did, however, indicate to me that they were doing it as a hobby rather than an economic activity on which their livelihood depended. These issues are discussed more fully below.

7.2.1 Reasons for staying with livestock farming

The cluster of reasons Ubuntu farmers gave for why farmers are staying with livestock farming points to a commitment to what is familiar, has worked well in the past and is still working reasonably well for those farmers who are still in the business; however, the reference to capital constraints does suggest that at least a minority of livestock farmers feel unable to branch out of livestock farming even though they would like to. The view of livestock farming as not only a passion but also a tradition that has been passed down from generation to generation in the farming families of the region is consistent with farmers' sense of identity described in Chapter 6. The economy of the Ubuntu Local Municipality has hinged on livestock farming for a century and a half and many farmers expressed a deep sense of pride at being able to continue farming using knowledge that has been passed down to them from their forefathers.

Tied up with this is the fact that the area is recognised as a particularly good sheep farming area, the second most frequently mentioned reason for why farmers are staying with livestock

farming. Farmers referred to the Victoria West area as “sheep country” and the “Merino Mecca” of South Africa. Local farmers have learned to adapt their animal husbandry to suit their pastoral environment over time and are confident in their knowledge of the environment. In the words of livestock farmer Nataniel:

My grandfather and great grandfather have farmed this land that I today farm on. Their knowledge of the Karoo system, their experiences over the years have maintained this land in good condition. I am also obligated to ensure that this tradition is continued by sticking to what has worked best for this land and what I believe is still working. I am not saying that as farmers we are stuck in the past, no. Life changes, things change, time moves, and we need to adopt to survive. However, you must understand that farming in this region has been moulded and structured by the limitations and strengths of this landscape (interview, 2017).

The third most frequently cited reason for staying with livestock farming is that it offers a “stable” income. Despite the challenges discussed in Chapter 6, half the livestock farmers in the survey were of this view, which they related to the diversified products from sheep farming (meat, sheep skin products, wool) and the fact that there will always be a market for the food (the meat) they produce. At the same time, however, over a third of the farmers in the survey suggested that there was a more negative reason why many farmers were staying with livestock farming and that was that they lacked the capital to establish a successful game farming business. Five of the livestock farmers I interviewed mentioned that they were too cautious to venture into other forms of farming as this might come with costs that they might not be able to shoulder. In the words of one farmer: “*Wat 'n mens saai, dat sal hy ook maai*” [As you sow, so shall you reap].

Elvis, a key informant at SANBI, agreed with the livestock farmers that there are risks attached to the conversion from livestock to game farming:

A farmer needs skills and experience to succeed. Investing capital into a new venture without acquiring expert advice and knowledge is a financial risk and may also have negative impacts on the environment and society.

Four of the game farmers I interviewed explained that it was precisely because of the risks attached to switching to game farming that they had not abandoned livestock farming completely:

This area has always been good for sheep and is still good for sheep. Switching some of my farm to game was rather motivated by the awareness that diversifying farm operations ensures resilience in terms of farm incomes. Right now, I can tell you that I am more than happy because of this decision. Droughts have hit us hard, but because my eggs were not in one basket. I am breathing a bit easier than most livestock-only farmers (game farmer Daan, interview, 2017).

The risks and challenges that farmers associate most strongly with the switch to game farming include negotiating the regulatory framework, investing in very expensive animals only to lose them during their translocation to the farm or to disease if they fail to adapt, and mobilising the funds to invest in the infrastructure required. Although farmers acknowledged the importance of the regulatory framework, they complained that the permit system has failed to evolve with the fast-paced growth of the game industry. According to one game farmer in the municipality:

There is a need of a central governing body for game farmers that is in one place and has all the required information required for game farmers. The fragmented system of game governance between the provincial and national level is very unprofessional and causes unnecessary delays for farmers. There is also a need to cut back on the unnecessary red tape surrounding the transportation of game, there is an inefficiency and ineffectiveness with the official running of these offices for documentation (game farmer Christiaan, interview, 2017).

However, my key informant at SANBI was adamant that state regulations are needed to ensure that game farmers adhere to the standards governing the industry (interview, 2017). Game farmer Daan was of the opinion that the regulatory framework needed tightening and stronger enforcement:

I have a neighbour and you can see clearly that the type of game that he has is not thriving on his land. Habitat analysis should be enforced and monitored closely because just because me and farmer G are in the same district it doesn't mean our veld types are the same. On the contrary, our vegetation type is like day and night. There is also the need to monitor the grazing capacities and stocking rates, that's the only way that game farming can be sustainable (interview, 2017).

However, when asked if the Department of Nature and Conservation was conducting adequate monitoring on game farms, he responded "Honestly, they only ever monitor the fences" (interview, 2017).

7.2.2 Reasons for shifting to farming with game

As discussed in chapter 4, a range of reasons have been advanced for the increase in game farming in South Africa, including, on the positive side, the enabling legal framework, the potentially very good returns on one's investment and a commitment to wildlife conservation and, on the negative side, evading land reform and legislation aimed at improving conditions for farm workers. A starting premise of this study has been that in evaluating these competing arguments, one needs to contextualise this land use change within the different agro-ecological regions of the country within which they are taking place and also incorporate farmers' own understandings of the reasons and their changing contexts into the analysis. As explained by Patrick at the Department of Environment and Nature Conservation, the switch to game farming has taken different forms in South Africa. Some farmers have switched completely to game farming, while others have converted only part of their farming operations to game farming (interview, 2017), as in my case study site.

This problematises the understanding of what a game farmer is and complicates the assessment of farmers' motivations. What has emerged from my engagement with farmers in the Ubuntu Local Municipality is that a complex mix of economic, political and environmental factors are spurring them on to look for ways of diversifying their income streams both on and off the farm, to the extent that they can, and that how they negotiate this mix is influenced by their family histories, worldviews, capital resources and appetite for risk and innovation.

As indicated in table 7.4 above, Ubuntu farmers are clear that the primary motive behind farmers diversifying into game farming is that it is, or can be, more profitable than livestock farming, provided one has the capital to invest. All 11 game farmers in the survey agreed that this is an important motive (the only factor on which they were unanimous, as already noted). However, about half the game farmers and a quarter of the livestock farmers also saw a commitment to biodiversity conservation as involved in the motivation to switch to game farming, indicating an understanding of themselves as practising sustainable agriculture and their conviction that there are environmental benefits of game farming – if only because successful game farming requires sound veld management. What is also worth noting is that in the survey farmers did not identify political concerns around land reform or farm workers as reasons for shifting to game farming. However, these concerns did emerge in my in-depth interviews with individual farmers and land reform also came up as an issue of concern in my survey in relation to the challenges farmers face, as already discussed in Chapter 6.

As shown, its table 7.4, 30 livestock farmers and all 11 game farmers indicated profit as the primary incentive behind game farming in the municipality, with ecotourism, hunting and live game sales the core activities. The potential for foreign exchange earnings from trophy hunting and international tourism were mentioned as strong incentives for switching to game farming, while the high prices one could secure through game breeding was mentioned by one prominent game farmer as another reason. Two of the game farmers I interviewed indicated that they were working alongside new entrants into the industry to set up breeding operations on their farms. Threaded through the “pull” factors were the “push’ factors”, most prominently the drought which was identified as an issue by almost all the game farmers (nine) in the survey and over half (26) of livestock farmers. Livestock farmers and game farmers alike have all suffered from the drought in the municipality over the last three years (Anton, Local Law Firm, Victoria West, 2017).

Game farmer Gert, who is prominent in the game sector in the municipality, reflected on this mix of issues as follows:

The amount of money that a farmer must invest in supplementary feeding for livestock in a protracted drought season like this is financially ruining. On, the other side, there is a lot of money to be made in game farming, some of the guys in Victoria West sold a springbok ram for a million Rands and that would normally sell for 800 Rands. Comparing the nature pricing, one would opt for the pot of gold especially with the colour variants. Colour variants have contributed to the profitability and attraction to game farming. Though the prices have recently dropped, this is not doom for the game industry. Game still fetches better prices than livestock. And the breeding industry will continue for tourism, stud breeding and venison (interview, 2017).

According to Patrick, the Biodiversity Officer at the Department of Environment and Nature Conservation, there has been more interest expressed by livestock farmers in the Ubuntu Local Municipality to engage in game farming in the last two to three years because of the drought that continues to haunt farmers. Though dorper sheep tend to be more resilient than wool sheep in times of rainfall stress, prolonged droughts have depleted the natural supply of forage, forcing farmers to sell off most of their livestock or face ruin through the escalating cost of supplementary feeding. According to Pieter:

As a farmer you can plan for everything in terms of long and short-term goals of your farm management, however, you cannot plan for the environment. This area has always been temperamental in terms of different weather calamities, first it was flooding and

now we are at the furthest side of that scale with droughts. The future of farming is becoming more and more bleak, which is why farmers are having to rethink everything they know and hold dear. Just a few years back, most of the farmers would not think of game farming as an alternative to sheep farming because of the generational tradition. However, livestock farmers have realised that game farming is very profitable in this region and less susceptible to environmental calamities. This is not to say game does not perish in these harsh conditions, but they show a greater resilience as opposed to sheep farming (Farmers Association, interview, 2017).

The resilience of especially plains game in the area was a fact that all game farmers interviewed commented on. As highlighted by game farmer Daan, some types of game like impala will eat any nutritious plant that they can find to survive, while eland can manage for a long time without water.

Otieno (2016), whose PhD thesis focused on the increasing costs of production associated with worsening climate, has noted that further research is needed on the relationship between climate change and the search for new livelihoods by farmers in South Africa. During my first round of interviews in 2016, farmers in the municipality mentioned that their strategies to survive the drought included selling mature and marketable animals, downsizing livestock herd, creating more watering points, safeguarding core breeding stock as well as selling off prized game. Game farmers were confident that the game side of their operations would fare better than the livestock because game is generally better adapted to dry spells.

Under these conditions farmers are having to think outside the box and be innovative to keep their farms afloat. As mentioned above, there has been a recorded increase of farmers seeking game farming permits within the province in the last 3 years.

New entrants into the industry have realised that the changing environmental patterns will have an adverse impact on livestock farming in the long run. This has encouraged farmers to start planning by diversifying their income portfolios into game farming (Patrick, Biodiversity Officer, Department of Environment and Nature Conservation).

A further consideration in shifting to game farming is that it is less demanding compared to livestock management. Twenty-three livestock farmers and seven game farmers mentioned this as a consideration. Once game is released on the farm, it is basically able to take care of itself unless disease or significant reductions in the availability of natural fodder occurs. (However, some introduced species such as rhinoceros may require supplementary feeding to ensure that all its dietary requirements are met.) Game animals are easier to breed and maintain and require

less water, provided the farm is extensive enough to allow for the adequate movement of game and water points are spread all over the farm. Though requiring less human management, newly introduced game do need to be monitored, to ensure they adapt to the environment and predation and poaching, especially in relation to highly valuable species, also need periodical monitoring.

Linked to game farming as less demanding than livestock farming as a motive for shifting to it is the fact that game farming is also regarded as less labour intensive – a reason for its attractiveness that was, interestingly, mentioned 23 times by livestock farmers but only three times by game farmers themselves. According to four livestock farmers I interviewed, this is a positive aspect of game farming, considering the rising wage labour bills as a result of government-stipulated minimum wages. While under half (26) of the farmers in my survey identified labour issues as a reason for shifting to game farming in response to this particular question on the survey, general concerns around labour as a challenge certainly featured prominently in my in-depth discussion with farmers, both livestock and game, as discussed above and in Chapter 6. Farmers' explicit acknowledgement of this as a motivating factor in switching to game farming in the survey thus provides support for the arguments that have been reviewed in other sections of this dissertation on the negative impact of game farming on farm employment (Ma, 2005; Mkhize, 2012; Brandt & Spierenburg, 2014; Zulu, 2015). However, only three of the 11 game farmers described this as a significant consideration in deciding to shift to game farming and, as already noted, while game farming is less labour intensive in terms of on-farm work, it has its own labour requirements, depending on the nature of the operations on the farm (eco-tourism, bed and breakfast ventures, hunting, breeding, translocation etc.). According to one informant, Ubuntu game farms – which generally include livestock farming as well – therefore tend to employ more not less workers than pure livestock farms overall, because of the diversity of their operations (game farmer Daan, interview, 2017).

The remaining three considerations in terms of motivations for shifting to game farming were stock theft, biodiversity conservation and recreational farming, all identified by under a third of my survey respondents. Stock theft was mentioned by 15 livestock farmers and three game farmers as a consideration within the Ubuntu Local Municipality that could drive livestock farmers to making the switch, because stock theft is experienced as less of a problem on game farms, in part because is less easy to catch than sheep and because there is more security on game farms, with their high game-proof fences which in some cases are electrified. Biodiversity conservation, which is discussed further below, was mentioned as a reason for the

switch to game (mixed) farming by 11 of the livestock farmers and six of the game farmers. According to game farmer Adam, though nature conservation was not the primary reason motivating his switch to game farming, he valued what he regarded as the contribution of game farming to the maintenance of the natural environment (interview, 2017). The “trick” according to game farmer Gert, is to introduce indigenous species that have little potential to damage the veld (interview, 2017).

According to four of the game farmers I interviewed, incomes from ecotourism and hunting are vital for the conservation of biodiversity. In the words of one of them:

Though profit is important in the running of a successful farm. I have also discovered the importance of managing my farm for conservation. The more I keep my farm in tip-top shape, the more competitive my farm will remain as an ecotourism destination. So yes, some of this money that I am making from these activities I am reinvesting back into the farm (game farmer Jako, interview, 2017).

Thus, although the conservation of biodiversity was not the most important reason for why farmers are shifting into game farming, they do regard it as a positive by-product of good game farming. However, as argued by Kamuti (2019) there is also a danger in the logic that “if it pays it stays”, because farmers might be tempted to overexploit the natural resources that provide their biggest return.

The final reason given for shifting to game farming, that of recreational farming, was mentioned 12 times by livestock farmers but not at all by game farmers in my survey. During my interviews, I asked farmers to define what they meant by recreational farming in their context. Recreational farming was defined as farming out of interest, rather than any defined need, and associated with “lifestyle farming” as well as ecotourism. The issue of “lifestyle” or what has also been termed “weekend” farming is a concern in many farming districts, because it is seen to push up market values beyond what practising farmers can afford, while also diminishing community cohesion (because so many of these farmers are absentee) and leading to the neglect of predation management to the detriment of resident farmers (Conradie, 2019). According to Kennedy “weekend farming” is “an investment by rich people who buy a piece of land to retreat to on weekends or holidays, or in some cases operate through use of farm managers as an alternative livelihood” (interview, 2016). These farms vary in terms of production levels: while some maintain their productivity, others have become derelict

(Kennedy, interview, 2016). In general, however, “weekend farming” was not as significant a concern in the Ubuntu Local Municipality as it appears to be in other farming districts.

7.2.3 Views on the contribution of game farming to conservation

In order to probe further farmers’ understanding of the relative contribution of game farming to conservation, I also asked respondents in the background survey if they agreed or disagreed with a set of statements on how game farming compares with livestock farming in terms of their relative contribution to biodiversity conservation.. Table 7.5 below summarises the responses.

Table 7.5: Farmers views on game contributions to sustainable agriculture and biodiversity conservation (n=57)

Statements (a-c)	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree		Don’t know/ No answer	
	GF	LF	GF	LF	GF	LF	GF	LF	GF	LF	GF	LF
Farmers (57) (GF 11, LF 46)												
(a) Game farming contributes to safeguarding threatened/ rare species of animals, birds and plants	9	11	2	14	0	8	0	8	0	3	0	2
(b) Game farming contributes to farming practices that protect the natural environment	10	12	1	15	0	9	0	6	0	1	0	3
(c) Game farming is better for the environment than conventional livestock farming	9	13	2	17	0	8	0	4	0	3	0	1

*GF-Game Farming, LF-Livestock Farming

Responses from the farmers indicates a general feeling that game farming contributes to sustainable agriculture and conservation, with 38 farmers either strongly agreeing or agreeing with statement (b) (“Game farming contributes to farming practices that protect the natural environment”) and 41 with statement (c) (“Game farming is better for the environment than conventional livestock farming”), including a majority (30/46) of livestock farmers. As might

be expected no game farmers disagreed with these statements but of interest is that sizeable minorities of livestock farmers were either neutral on the issue or disagreed with the view that game farming was, whether implicitly or explicitly, more environmentally friendly than livestock farming.

7.6 Conclusion

This chapter presents the views of farmers around sustainability and conservation within the local context of the Ubuntu Local Municipality. Although farmers recognised that good environmental management is essential for their profitability, practice was said to fall short of principle, especially because of the various pressures facing this segment of farming. However, in terms of the tripartite understanding of sustainable development that has been discussed in Chapter 2, most farmers' understanding did not extend to including social issues as a significant dimension. The overwhelming majority of the interviewed farmers referred to the economic and environmental dimensions of sustainability from a farming perspective, i.e. in terms of how they were inter-related in their farming practices and management strategies. In this they reflected the conventional understanding of sustainable agriculture put forward by agricultural institutions and experts described in Chapter 2. Only a few farmers acknowledged social concerns, cast generally in a paternalistic mould; a handful recognised land reform and working constructively with black emerging farmers as something that farmers need to engage.

Further, the land use change to game farming in the Ubuntu Local Municipality has been influenced by processes at the local, national and global level. For example, though economic processes influencing the switch to game farming emanate from national policies and global market trends, it is also true that environmental factors are felt at the local context with farmers in the Northern Cape having to face the impacts of recurrent droughts. At the individual level, farmers respond differently to crisis, highlighting that the commercial sector is not a homogenous entity. Environmental challenges facing the region have, however, increased awareness amongst farmers of the need to respect environmental limits in how they manage their farms. Commercial farmers in the Ubuntu municipality also view their farming practices as contributing positively to South Africa's conservation estate.

Chapter 8: Prospects for emerging and small-scale farmers in the game farming industry

Despite policies aimed since 1994 at ending the dualism of South African agriculture and promoting the development of small-scale farming, this sector continues to face numerous challenges (Okunlola *et al.*, 2016; Ramutsindela *et al.*, 2016; Aliber, Mabhera & Chikhwanha, 2017; Cousins, 2018b). Although there have been numerous policy interventions and programmes designed to uplift small-scale farming, most analysts agree that little progress has been achieved overall (Hall, 2015; Cousins, 2018b). The viability of small-scale farming is hampered by challenges that are on a different scale from those reported by commercial farmers, including extremely limited access to land, markets and financial and technical support; these are in addition to the more general problems of climate change, drought, mounting production costs and land degradation facing all farmers in South Africa.

Considering the disparities in access to resources between commercial farmers and small-scale farmers, the growth of game farming in South Africa has raised concerns that this land use is further entrenching these inequalities, because of the concentration of land ownership, the associated eviction of farm workers and their families, and the casualisation of farm employment linked to it (Helliker, 2013; Brandt & Spierenburg, 2014; Brooks & Kjelstrup, 2014). At the upper end of the game farming spectrum, there is evidence of a few wealthy black individuals entering the game farming sector, as described in Chapter 4. However, what has received little attention are the views on game farming among small-scale black farmers at the other end of the spectrum, and whether, with appropriate policy interventions and support, game farming could be better aligned with land and agrarian reform.

As discussed in Chapter 3, in order to probe these issues in the context of the Ubuntu Local Municipality I conducted 23 in-depth-interviews and two focus group discussions (FGDs) with small-scale and emerging farmers in the Victoria West area,¹⁸ augmented by a number of key-informant interviews with DAFF extension officers, the chairperson of a local cooperative and officials at the Ubuntu Local Municipality, the provincial Department of Environment and Nature Conservation and the national Department of Rural Development and Land Reform (DRDLR). In this chapter I present the findings from this research, beginning with a discussion

¹⁸ FGD 1 was with commonage farmers, while FGD 2 was with backyard farmers in Victoria West

of the definition of small-scale farming in the context of the Ubuntu Local Municipality, followed, in section 2, by an overview of the three different groups of small-scale farmers that I encountered in the Ubuntu Local Municipality, including a demographic profile of the farmers in my sample. In section 3, I review small-scale farming realities while in section 4, I focus on small-scale farmers' views on game farming.

8.1 Defining small-scale farming

Bernstein (2010) has argued that the definition of small-scale farming has important analytic consequences and needs to take into account the changing historical frameworks in the different geographic settings in which these farmers are found. In South Africa a small-scale farmer is generally understood as someone farming on a small scale for both the market and/or household consumption, most commonly on communal land in the former homelands or Bantustans but also on group-owned or leased land reform projects; the term is also almost invariably associated with black farmers. It is also from this class of farmers that another category of black farmers, those identified as “emerging” farmers, has arisen. These are small-scale farmers who have the desire and potential to expand their farming operations so that they begin to approach the scale of production of commercial farmers, generally with private or government financial support.

However, what defines a small-scale farmer in one region may not be directly applicable in another – in the Karoo, for instance, there are no former homelands, but municipal commonages have been a significant category of land reform intended to benefit black small-scale farmers. Scale is also generally understood more in relation to turnover and, in the context of livestock, herd size than actual land area but generally the amount of land available to the farming household is very small and this is a major constraint.

According to Lwazi, a key informant at DAFF, the ambiguities in the definition of small-scale farming has prompted DAFF to develop its own typology of small-scale farmers that distinguishes between the different groups of farmers who otherwise get lumped together (interview, 2018). This typology was based on findings from a series of studies by DAFF on small-scale farmers in the Northern Cape Province that showed that the number of animals owned by individual farmers was almost always an indication of the primary reason for keeping livestock i.e. whether primarily for household subsistence or for the market or more personal

and cultural reasons: the smaller the number, the stronger the motivations around cultural considerations and supplementing household livelihoods are likely to be. There are plans to make this typology the national standard to ensure that a common understanding informs agricultural policies (interview, 2017). Table 8.1 below sets out the DAFF typology of small-scale farming.

Table 8.1: The DAFF small-scale farmer typology in the Northern Cape

Number of animals	Classification
0-50	Subsistence farming
50-100	Small holder farming
100 +	Emerging commercial farmer

(Source: DAFF, 2017)

This typology has some points of overlap with one that Atkinson & Ingle (2018) developed, based on their work on commonage users in Carnarvon and Williston between 2009 and 2018. However, they distinguished between what they termed “survivalist” commonage farmers, with 10 sheep or less, and the general category of “small-scale farmers” (with between 11 and 100 animals in their typology). They also described farmers with a herd of 100 plus sheep as “proto-commercial” rather than “emerging” farmers. In their analysis these are farmers who are keen to branch out from the commonage and farm independently on their own land, if they could access that. In this regard it is worth noting that ecologist Tim O’Connor has argued that in the Nama Karoo a farming household needs an absolute minimum of 400 sheep in order to be able to deliver a minimally acceptable household income through farming fulltime, i.e. without a second source of income; he also considers 600 sheep the minimum for what he describes as a “lower middle-class income” (O’Connor, as reported in Walker, 2019: 9). This puts the herd counts in Table 8.1 in perspective: in this account, none of them can be seen to provide a “lower middle-class income” for their owners. For noting here is that at the time of my fieldwork, the small-scale farmer with the largest herd of livestock in Victoria West had just over 120 sheep, thus falling far short of the minimum for a commercial farmer in this area.

Numbers of stock cannot, however, be taken as a strict measure of either motive or the scale of farming at which the farmer wishes to operate. Small-scale farmers engage in farming for different reasons, so understanding their motives is important for developing policies aimed at providing them with appropriate support. Herd sizes also fluctuate for a range of reasons, including drought which can precipitate herd selloffs and/or disease and/or family crises requiring funds. According to Tshepo, a key informant at the DRDLR:

Though emerging farmers are typically moving from subsistence farming to commercial farming, it should be noted that the size of the number of livestock owned by farmers is not constant. Right now, farmers, commercial and small-scale alike, have lost a lot of livestock because of droughts. Does that mean that they are no longer commercial or emerging farmers? Livestock numbers of farmers can be affected by different factors including, access to land, droughts, diseases and farmers may be forced to sell most of their livestock to mitigate different shocks in their lives (interview, 2018).

In their work in Philippolis, Atkinson & Büscher (2006:451) also came to the conclusion that there is no obvious correlation between farmers' motivations and the number of stock that they own:

Some people may have only a few head of livestock, but, given the opportunity, may want to become emergent small-scale farmers, or proto-capitalist farmers. Other people may own quite large numbers of cattle or sheep, but do not have any real ambition to grow their farming enterprises on a commercial basis.

In a more recent article, Atkinson & Ingle (2018: 236) point out that a commercial mind-set does not necessarily require formal land ownership; rather, small-scale farmers can use commonage land “as a launch-pad for future commercial operations, either on their own land or on private leasehold land”.

As my overview of the small-scale farmers in the Ubuntu Local Municipality makes clear, not all farmers in this category wish to be full-time farmers. This is consistent with the account by Aliber, Mabhera & Chikhwanha (2017: 31) of what they term “churning”, with people moving in and out of farming, the latter functioning as a compensatory measure depending on the opening or closing of other livelihood opportunities. In the Ubuntu Local Municipality some farmers have livestock on the commonage land but “remain inactive in any farm activities for months on end” (Vicky DAFF Extension Officer, interview, 2017). Yet classifying all these farmers as marginal is problematic because some of them may have quite large herds, with cases reported to me of herds of more than 50 animals left essentially un-managed and free ranging. In many cases these farmers have alternative fulltime occupations that keep them from farming; in other cases, the farmer is old and has no alternative sources of labour to draw on to tend to his sheep but does not want to relinquish his herd.

When small-scale farmers in Ubuntu Local Municipality were asked to define small-scale farming during my focus group discussions and interviews with them, the two main issues that

they highlighted were scale in comparison to white farmers and their reliance on family labour. Gender was also identified as an issue by some – “most of the small-scale farmers are men but that is not to say that women are not interested in farming” (commonage farmer Lebohang, interview, 2017). Respondents also recognised that there is wealth differentiation among themselves: “Like in the large-scale farming, some small-scale farmers are more successful than others, this is seen by the number of livestock and the way that they live is better” (Mardeck farmer Petrus, interview, 2017).

Of note is that all the small-scale farmers whom I interviewed, as well as those who participated in the focus group discussions, insisted that although there are differentials among them, they all produce for the market at some point or other:

All farmers are trying to produce for the market, what is the use of me having these goats if I cannot sell them and get an income? (speaker 1, FGD 2, 2017).

Times are tough, having these goats helps me when I need cash to take care of different needs within my family, that’s why when even one goat gets stolen or hit by a car you feel the pain deeply (backyard farmer Majola, interview, 2017).

In this regard Galaty & Bonte (1991: 4) have argued that scholars have contributed to misconceptions of pastoralists by suggesting amongst other things that “pastoralists practise strictly subsistence-oriented rather than flexible production strategies articulated with markets”.

Also for noting is that in my interviews farmers on the Victoria West commonage and farmers on Mardeck farm all identified themselves as small-scale farmers – i.e. the difference between who owned the land on which they farmed and how it was accessed was not significant in terms of their identity as farmers. Furthermore, what was also highlighted is that there is movement by farmers across the three farming spaces open to them. For example, two farmers who were initially farming on Mardeck when it was granted to farmers in 2003 left the farm at some point to farm on the Victoria West commonage. Also, four of the backyard farmers I interviewed had previously farmed on the commonage but had chosen to leave because of conflicts with the leadership of the commonage committee. These movements are common and according to the farmers I spoke to are likely to continue to be a feature of small-scale farming in Victoria West.

8.2 Small-scale farming in Victoria West

According to information I was able to obtain from DAFF (2018), commercial farming in the municipality covers an area of 1,711,771 ha. while the commonage land attached to the towns of Victoria West, Richmond and Loxton that has been made available for small-scale farming amounts to less than 2 % of that, at a total of 26,275 ha. I was unable to get precise information on the area of the Richmond and Loxton commonages, but the Victoria West commonage comprises a total of 6,946 ha, with 28 farmers identified officially as users (DAFF, 2018). However, according to the Chairperson of the Cooperative that represents the farmers on the commonage, only 15 of these farmers are actively farming (interview, 2017). Of these 15 active farmers I was able to interview 13.

As previously described, there is one small land reform project on a farm by the name of Mardeck, just outside Victoria West, which is 365 ha in extent. Officially this project has six members but two were inactive at the time of my fieldwork; I managed to interview the four who were still active. The other important category of small-scale farmers in the municipality are the backyard farmers, i.e. households living in the small towns in the municipality who have livestock but no land on which to graze them. These farmers are undocumented because this type of farming is not officially recognised in the municipality but, as previously indicated, this is a significant group in the Northern Cape (see Chapter 5) and the term is recognised by Statistics South Africa in its categorisation of “agricultural households’ in South Africa.

A more detailed account of each group of small-scale farmers in my research site follows; a summary in table form is provided at the end of this section.

8.2.1 Victoria West municipal commonage land

In the 1990s the post-apartheid government identified municipally owned commonage land attached to towns as a resource that could be used as part of its national land reform and rural development programme (see Chapter 2), with municipalities empowered through several Municipal / Local Authority Ordinances and regulations to “set aside land under its control for pasturage of stock and for the purposes of establishing garden allotments”:

They may make by-laws to regulate and control the use and protection of such land and the kinds of stock which may be pastured, restrict the number of stock per household,

restrict or prohibit the use of certain of the council's land for pasturage and prescribe appropriate charges (DRDLR, n.d: 1).

The Ubuntu Local Municipality thus has the mandate to allocate commonage land to black applicants from the local community. However, the land available is very limited – the 26,275 ha. available for commonage farming in the municipality is equivalent to approximately four average-sized game farms in the municipality. Thus, many aspirant small-scale black farmers cannot be accommodated and those that are included are struggling with the limits of the land that is available to them. Once small-scale farmers get permission to farm on commonage land, they must sign a contract with the municipality stipulating how many livestock they are allowed to graze on the land; leases are valid for a period of 10 years for all the farmers. Once they have reached the end of their lease with the municipality farmers have to reapply for another contract. The individual farmers must also pay user fees for the use of the commonage land, as stipulated in their individual contracts, calculated per head of livestock the farmer grazes on the land. In Victoria West farmers pay R3 / small stock unit (sheep and goats) per month while large stock units (e.g. cattle) are charged at R10 / unit per month. Most commonage farmers farm mostly with sheep and some goats, with cattle constituting only 10 % of the total number of livestock units on the commonage.

Most of the small-scale farmers agreed during our focus group discussion that the pricing is fair while individual farmers I spoke to stated that they keep the number of stock they can afford. However, according to Ray, a key informant at the Ubuntu Local Municipality who is working with small-scale farmers, the last head count of livestock (both large and small stock) on the Victoria West commonage counted 1,300 units which is far above the recognised carrying capacity of the land, which is calculated at 562 small stock (sheep/goats) (interview, 2017). During the focus group discussions with the commonage farmers, they recognised that although there are rules and regulations governing stock numbers, overstocking by some official users is rife. They blamed the Municipality for not monitoring the farming activities on the commonage land, rather than themselves – according to them, so long as the farmers have paid their rent, there is no follow-up from the municipality.

To provide some level of farmer support, commonage farmers in Victoria West formed the Vusisizwe Co-operative in around 2006, with the hope of building cohesion and limiting conflicts over resource management. However, due to what was described to me by Vicky, the DAFF Extension Officer, as mismanagement and neglect, the existing co-operative members unanimously deregistered it in 2008/9. In 2016 farmers applied for the reinstatement of the co-

operative, under the leadership of the current chairperson, and at the time of my fieldwork it was registered with the Ubuntu Local Municipality and fully functional. The Vusisizwe Co-operative was an initiative of the farmers to work as a united body and gives them a space in which they can share knowledge and expertise in furtherance of their goals (Ray, Ubuntu Local Municipality, interview, 2017). Some farmers within the co-operative are farming with the intention of becoming commercial farmers in terms of land ownership and herd size. According to Frances, the chairperson of the co-operative:

It is better to be heard as a group, than as an individual. The co-operative gives the small-scale farmers opportunities that would not be afforded to them if they were only farming as individuals (Interview, 2017).

Here he gave an example of the diversity of interests among commonage users, which often results in individual commonage users lobbying the municipality with very different needs and grievances. Organised as a group, the commonage users are better able to prioritise their needs before approaching the municipality which, in the view of the chairperson, has resulted in farmers being taken more seriously by the municipality. In my focus group discussion with commonage farmers participants expressed general satisfaction with the co-operative:

The municipality has failed on delivering its mandate of upkeeping the commonage land, as such we are grateful for the initiative at Vusisizwe as farmers are now able to maintain some of the more important assets that are important to ensure productivity on the municipal land (speaker 3, FGD 1, 2017).

I have begun to thrive more as a farmer under the Vusisizwe co-operative, here we find encouragement that we have always lacked as small farmers (speaker 1, FGD 1, 2017).

While dissenting views might have been more difficult to express in a general focus group discussion, the farmers I interviewed individually were also largely favourable, as captured in the following quote from my interview with Khethiwe, one of two women farmers active on the commonage:

I left Mardeck because of the politics and conflict on use of resources. Men did not want to farm with women, here at Vusisizwe I have not had those challenges. I am treated as a farmer like everyone else (interview, 2017).

The co-operative has also organised its members to raise funds to build or repair infrastructure on the commonage, which the chairperson saw as especially important, given the “lack of will by local and provincial government in addressing challenges faced by commonage farmers”

(Frances, interview, 2017). Co-operative members came to a unanimous agreement that every member is required to give the co-operative three to five sheep per year from their herds, the profits from which are invested in buying and repairing equipment, for example, shearing machines, generators, fencing, and wind pumps. If there is a balance left over at the end of the year, it is shared amongst the farmers. One of the primary reasons for founding this co-operative was the realisation amongst farmers that when it comes to external support they are on their own: “waiting for the government was to wait in vain” (Frances, interview, 2017). The co-operative gives participating farmers a sense of belonging and hope in a system that does not favour the small-scale farmer.

However, though the co-operative seems to be working reasonably well for its current members, backyard farmers whom I interviewed who used to farm on the commonage expressed considerable resentment about the co-operative, which related to their reasons for leaving the commonage. Two backyard farmers alleged that power dynamics within the commonage land had resulted in a certain group of people appropriating most of the commonage land for their use, leaving very little for the other users.

There are those people who think when they have more money than others it automatically means they are in power. I refused to be treated like a child and so I left the municipality land (backyard farmer Majola, interview, 2017).

... [my child], the municipal land is a shared resource but there are other people who think they own this land. The stress and confusion on the municipality land made me choose to rather farm here at home. Though farming at home also has its stress (backyard farmer Duma, interview, 2017).

According to the DAFF Extension Officer, a process of differentiation is taking place among commonage farmers in terms of herd sizes and income, and this is resulting in a shift of power towards those farmers who are doing relatively well and are shaping the decision-making (interview, 2017). This is leading to discontent among the poorer farmers who are leaving the commonage and end up as backyard farmers.

Tensions of this sort are common in communal property systems where institutions are weak, and members do not share similar objectives. For example, Atkinson & Ingle (2018) have noted similar tensions among commonage users in Carnarvon and Williston between those wanting to grow their farming operations and those who are using the commonage as a supplementary resource. During my interviews, most backyard farmers highlighted the problem of an absolute

shortage of land for small-scale farmers in the Ubuntu Local Municipality in relation to the demand from users. Thus the tensions that are evident among small-scale farmers emanate mostly from inequalities in the land distribution amongst farmers. The municipality, according to Xolile, is part of the problem as they turn a blind eye to these issues: “the municipality is corrupt, we all know why certain people on the commonage act like they own it” (interview, 2017). The municipality was accused of allocating land through favouritism, nepotism and in some cases bribes according to two of my backyard respondents.

8.2.2 Mardeck farm

According to Lwazi, my informant at DAFF, Mardeck farm was acquired by the DRDLR for emerging black farmers in Victoria West in the year 2003, under the National Government’s Reconstruction and Development Programme¹⁹ (interview, 2018). At its inception Mardeck farm was set up as a Community Property Association (CPA) under the management of a body called the Black Farmers Association, which was under the mentorship of a prominent white commercial farmer in Victoria West. According to Petrus, who is the designated caretaker, because the farm is just 3 km from the township it is easily accessible by the four farmers still farming on it (interview, 2017). According to both Petrus and Vicky, the DAFF Extension Officer, the farm used to have fences, water points and an irrigation system, but these have been vandalised, both by the members themselves and by local community members, while some of the farm implements have been sold (discussed further below).

As has been noted in various other studies on emerging farming in South Africa (Shackleton & Shackleton, 2015; Cousins, 2016; Khapayi & Celliers, 2016; Okunlola *et al.*, 2016; Aliber *et al.*, 2017), there is a major need for better understanding of the factors that limit the development of emerging farmers, in order to develop more effective policies, development strategies, training programmes and farming models that take account of the specific factors that constrain different groups of emerging farmers and better support the transition of emerging farmers into the commercial agriculture sector. This process needs to engage with the particular histories, local dynamics and agro-ecological conditions of individual projects.

¹⁹ This account reflects the information I was given; I was unable to establish the link between this land reform project and the general land reform programme of the DRDLR as informants in the municipality were unable to provide that level of detail on developments that had taken place 13/14 years before my fieldwork.

In the case of the Black Farmers Association, according to one of the DAFF Extension Officers in Victoria West, the organisation was given financial and extension support in the beginning, but it began to collapse within a year over allegations of mismanagement. Firstly, the white farmer who had acted as a mentor to the farmers left, because of the open resentment displayed towards him by the members of the Association. Secondly, the manager that the Association had appointed from the community to run the project sold a total of 500 sheep belonging to the Association and misappropriated the funds for his own purposes. To cover the debts accumulated by the Association most of its farm implements had to be sold off (Vicky, DAFF Extension Officer, interview, 2017).

Between 2005 and 2006 the remaining farmers formed the Masibambane Association and took over the farm. At the time of my fieldwork this Association was still functional but only two of the six original farmers were farming full-time; two were part-time farmers and two had become inactive. Farmers in the co-operative had agreed to keep a total of 90 sheep on the farm when the new association was formed, in line with the stipulated carrying capacity of the farm by DAFF (Vicky, DAFF Extension Officer, interview, 2017). However, according to Petrus, although he was not sure of the exact figure, there are more than 120 sheep as well as some 70 goats and 20 pigs on the farm; according to him this has resulted in visible overgrazing (interview, 2017).

As mentioned by several farmers during my focus group discussions, shortage of land and access to credit remain the biggest challenges the Mardeck farmers face. Lack of extension services is another problem. The farmers pay R100 monthly for rates and taxes to the municipality (Ray, Ubuntu Local Municipality, interview, 2017). However, although the farmers in the Masibambane Association have received sporadic financial assistance from the provincial government, they have had to shoulder the bulk of the costs of running the farm themselves. The last recorded government support to them came in November/December 2018 when each farmer was given five sheep under the government's drought relief scheme to help farmers recover. Farmers also mentioned sporadic visits from DAFF Extension Officers who advise on different farming activities. Farmer Petrus, who is 50 years old and took over farming from his father in 2011, after his father had fallen ill, mentioned that he had also received an offer of support from a commercial farmer, to grow onions. Unfortunately, this initiative fell through because of poor maintenance of infrastructure:

I have only received government support once, since I took over from my father, however, a commercial farmer here in Victoria West offered to mentor me. He gave

me 800 onions to plant here on the farm and the agreement was that I would grow and take care of these onions. And once they had sprouted the farmer would get me buyers. It was a promising project but because of neglect and shortage of funds to keep farm equipment prime the water pumps broke and the project came to a standstill because I did not have funds to repair the water pumps (Interview, 2018).

8.2.3 Backyard farmers in Victoria West

Backyard farming, as suggested by the name, involves the keeping of livestock by town dwellers in their backyards. Livestock owners who do not have access to the commonage land, whether because of the politics of access to the commonage, their inability to obtain leases from the municipality and/or their failure to pay the required user fees to the municipality, all depend on backyard farming. Though I was unable to establish an official head count of goats within the township, because of the unavailability of official records around this form of farming, according to Duma, one of the more successful backyard farmers in Victoria West, the average head count of goats per backyard farmer in Victoria West is 20 (interview, 2017).

The most frequent response given by backyard farmers when I asked them why and how they had ended up farming in this way pointed to politics and corruption:

There is a lot of politics and corruption surrounding use of commonage land. You get land because you know someone, are related to someone, have paid someone. This resulted in some farmers deciding to utilise their backyards as proxies for farmland (backyard farmer Michael, interview, 2017).

Backyard farming has been a feature of Victoria West for a number of years, but although the municipality is aware of the practice, it remains illegal in terms of municipal ordinances. As such, even when their goats go missing or are hit by cars backyard farmers cannot report these problems to the local police.

Backyard farmers mostly farm with goats which are far more independent and better able to cope with ranging freely than sheep; generally, their stock is put in a kraal (small pen) in their backyards overnight and then let out during the day to forage around the town on their own.

It is easier to farm with goats in the township, because goats are tougher than sheep and can withstand heat and survive on poorer land (commonage farmer Kgopotso, interview, 2017).

No shepherds are used to look after the stock during the day. At different times during the day, the goats come back to the yards for water or shade; when they return at night, the farmer does a head count and shuts them in their pens. If any of the goats are missing the farmer searches the areas where the goats are normally seen to be moving around during the day.

8.2.4 A comparative overview of the three farming types

Drawing on my conversations with small-scale farmers, the agricultural extension officers in Victoria West, key informants at DRDLR, DAFF and the Ubuntu Local Municipality as well as my own observations and the findings in other studies (Atkinson & Büscher, 2006b; Cousins & Chikazunga, 2013; Okunlola *et al.*, 2016), I compiled an overview of the characteristics of small-scale farming in the three spaces available for it in the Victoria West area. Table 8.2 below summarises the major features of each category.

Table 8.2: Features of small-scale farming

	Commonage	Mardeck	Backyard
No of farmers	13	4	6
Access to land	Through the municipality	Originally through the DRDLR; through the co-operative	Illegal /informal use of open land in township
Area	6,946 ha.	375 ha.	Undocumented
Production	Mostly for market, some for occasional household use	Mostly for market	Mostly for market, some for occasional household use
Herd type	Sheep, cattle	Sheep, goats, pigs	Mostly goats
Extension support	Some extension support services, training & mentorship from commercial farmers; livestock donations for breeding purposes	Some extension support services and mentoring from commercial farmers	No extension support; farmers rely for advice on each other or a local shop that sells farm implements
Full or part-time	Mostly part time farmers, some 'emerging' farmers are farming fulltime	Mostly part time farmers; some hired labour	Mostly part time farmers, utilising family labour
State support	Little or no input from the government	Government financial support given twice, at inception of the project and in 2018	No input/support from government
Organisation	Vusisizwe co-operative	Masibambane co-operative	Not organised

8.2.5 Demographic profile of small-scale farmers in Victoria West

Race, gender, age

The farmers in my sample were all black, 62 % of them identifying themselves as “coloured”, all of them Afrikaans-speaking, and 38 % black African, all of them with Xhosa as their first language but many of them fluent in Afrikaans. My interviews with the farmers were carried out in English and Xhosa, with the assistance of my translator, Themba, for those Afrikaans speaking farmers who did not have a good command of English. Three quarters were male, and none were under 35, with 16 out of the 23 older than 55. Table 8.3 below provides a breakdown of my sample by farming category, age and gender.

Table 8.3: Age and gender of interviewed farmers (N=23)

Age	Commonage (13)		Mardeck (4)		Backyard (6)		Total (23)	
	Men	Women	Men	Women	Men	Women	Men	Women
Below 35	0	0	0	0	0	0	0	0
36-45	2	0	0	0	0	0	2	0
46-55	3	0	1	0	1	0	5	0
56-65	4	2	0	0	2	1	6	3
66+	2	0	1	2	1	1	4	3
Total	11	2	2	2	4	2	17	6

Small-scale farming in the Victoria West area is thus a predominantly male domain, with women being politically and culturally excluded. This bias against women is consistent with what has been found in other studies (Atkinson, 2007a; Davenport, Shackleton & Gambiza, 2012). According to Khethiwe, the female commonage farmer already quoted above, this is more of a problem on Mardeck than on the commonage.

The age profile, with only two of the farmers falling in the 36-45 cohort, both of them on the commonage, is also in line with broad national trends. This may be indicative of an aging farming population, as most of the farmers I spoke to indicated that there is a disinterest in farming among the younger generation. However, whether this will change as the current younger generation ages or if more support is made available for small-scale farmers remains an open question. The main reason for the absence of young farmers, according to my respondents, is that the economic returns from agriculture are poor.

Education levels

Education levels are generally very low, as shown in Table 8.4 below. Eighteen of the respondents had only a Grade 7 education or lower, eight of them with no formal education at all. Only four have a secondary education, while only one commonage farmer has obtained a post-matric national certificate (in this case in a non-agricultural related field).

Table 8.4: Education levels of commonage farmers on commonage land (N=23)

Level of Education	Commonage (13)	Mardeck (4)	Backyard (6)	Total (23)
No education	3	1	4	8
Primary Grade 1-7	6	2	2	10
Secondary Grade 8-12	3	1	0	4
National certificate after matric	1	0	0	1

In a study conducted in the Chankumba community in Zambia, Siulemba & Moodley (2014) found that small-scale farmers with a formal education were more likely than those without to adopt new technologies, especially sustainable agricultural practices that are knowledge intensive, a finding that was endorsed by my key informants in the municipality. According to the Municipal Manager limited education acts as a barrier for small-scale farmers in terms of access to vital information about farming and technological skills (interview, 2017); Vicky, the DAFF official, also regarded the combination of age and low education levels among small-scale farmers as a huge challenge as the farmers they were working with were set in their ways and resistant to new ideas around farming (interview, 2017). From their side the DAFF Extension Officers stressed the importance of agricultural extension services in bridging this gap, through workshops and practical exercises with farmers, but complained that participation in the workshops on offer was very weak.

Livelihoods

Tables 8.5 and 8.6 below provide an overview of the employment status and main sources of income of the small-scale farmers whom I interviewed. Table 8.5 shows that five of the 23 farmers in my sample regarded themselves as full-time farmers, with farming their primary source of income. Three of the commonage farmers are employed full-time off-farm, notably all three of them in the government sector (a policeman, a prison warden and a teacher); these farmers mentioned the occasional use of hired labour to attend to their farming enterprises

during weekdays, while reporting that they attend to their stock personally on weekends. Eight of the farmers are engaged in part-time off-farm work: only occasionally for two of the eight (in agriculture-related work) but regularly for the remaining six. Five of the farmers mentioned that they are receiving a state pension while two described themselves as “unemployed”. As Table 8.6 shows, there is a particularly wide range of income profiles among the commonage farmers, which is implicated in the tensions that have been described among this group of farmers, with their very different motives for using this land.

Table 8.5: Employment status of small-scale farmers in Victoria West

Employment Status	Commonage (13)	Mardeck (4)	Backyard (6)	Total (23)
Full-time farmers	4	1	0	5
Full-time work, off-farm	3	0	0	3
Part-time work, off-farm	4	2	2	8
State pension	2	1	2	5
Unemployed	0	0	2	2

Table 8.6: Primary sources of income for small-scale farmers in Victoria West

Income	Commonage (13)	Mardeck (4)	Backyard (6)	Total (23)
State grant	10	3	4	20
Farming	8	4	3	15
Salaries/ wages	7	2	2	11
Remittances	4	1	2	7
State pensions	2	1	2	5

As Table 8.6 also shows, the farmers I interviewed depend on multiple sources of income for their livelihoods, with grants, followed by their farming and then salaries/wages the three most important sources of income.²⁰ Of note is that 20 of the 23 small-scale farmers I interviewed (87 %) identified state grants as the main source of income in their households.

Sinyolo (2016: 30), amongst other authors, has argued that state grants are disincentivising small-scale farmers and reducing their readiness to improve their farming methods:

increases in social grant income can potentially reduce farming households’ incentives to put more land under cultivation, supply more labour to farming activities,

²⁰ Note that this table does not show individual combinations, but the frequency of income sources per farming type.

commercialise or adopt modern farming technologies as they can maintain their utility level through the unearned income, *ceteris paribus*.

Though the impact of social grants was not a focus of my study, I asked my key informants if they thought this was the case in Victoria West. One of the DAFF officials thought this was a consideration, given the challenges of small-scale farming:

Most of the small-scale farmers who have quit farming on the commonage land are recipients of government grants. Some of these farmers indicated that farming has become a tedious business and they would try and make do with their income from grants (Lloyd, DAFF, interview, 2017).

Farming was the second most frequently mentioned source of income. However, many of the farmers I interviewed expressed major concerns about the increased costs of production they are facing (including for supplementary feed, and medicines) and the pressure of environmental factors such as the drought and land degradation – here echoing the commercial farmers in the district albeit at a very different scale. Thus, the full-time farmers in my group complained of having to sell off their livestock and cut down on supplementary feeding. At the same time, there was also an acknowledgement by the part-time farmers that although they cannot survive on farming alone, having some livestock does act as a buffer against economic hardship.

Eleven of the respondents mentioned getting salaries/wages while remittances from within South Africa emerged as the fourth most significant source of income. These remittances are mostly received from children and other close relatives who have moved to the bigger cities (Johannesburg, Cape Town, Kimberly) for better economic opportunities. Almost 80 % of the farmers interviewed mentioned that diversification of their livelihood strategies has become crucial as job opportunities have become increasingly irregular and limited in the municipality.

8.3 Small-scale farming realities in the Ubuntu Local Municipality

8.3.1 Livestock management

As the description of farmers and farming categories has already indicated, livestock farming arrangements amongst the small-scale farmers vary in terms of the nature of the grazing site, herd size, availability of labour (primarily for herding) and the type of farmer, i.e. whether full- or part-time. However, across all three small-scale categories regular herd counts were described as the most useful way of managing one's herd, with five of the farmers also using

branding as a way to mark their animals. Full-time farmers said they do a herd count daily, while part-time farmers aim to carry out weekly herd counts, on their off days from their off-farm work. Regular head counts are especially important for livestock on the commonage where stock theft is a major problem.

Access to labour when it is needed is a concern for some farmers. In the backyard system of farming, farmers are able to be hands-on, should they wish to be, because they can monitor their stock relatively easily. They can also make use of family members to check on their livestock during the course of the day. I was told that if one is a full-time small-scale farmer on Mardeck or the commonage, with a herd of between 30-80 animals, one can manage without hiring labour or only hiring labour on an *ad hoc* basis as and when needed. Full-time farmers on Mardeck and the commonage are thus able to have a hands-on approach to monitoring the health of their herds. Part-time farmers on these two sites without family labour to draw on need to hire labour but actually doing so is determined by the ability of the farmer to pay the wages; however, failure to hire labour by a part-time farmer is considered unproductive because of the very real threat of loss if livestock is left unsupervised.

Small-scale farmers in Victoria West mostly sell their produce locally, to local abattoirs, consumers and traders, with a small number selling to external traders. Two of the small-scale farmers on the commonage land mentioned that they had been lucky to get contracts supplying a butchery within the province. However, access to diverse markets remains a challenge, mostly because of the transport costs involved should they wish to seek markets beyond the town. A number of farmers mentioned that making business contacts or networks is difficult at best, because of the relative isolation of the small towns in the Karoo, and they have had to come to terms with the markets that are immediately available to them.

Despite the limited markets and inadequate access to grazing ground, backyard farmers noted that goat farming could provide one with a good income, with one goat selling at anything between R1,000 and R1,200. Goats are bought locally for meat, for use in traditional functions and practices, and for milk. The commonage farmers mostly produce for the meat market (sheep, cattle, goats) though they also produce some wool from the approximately 500 merino sheep on the municipal land. The recurrent drought situation in the Northern Cape has, however, been heavily felt in the small-scale farming sector. Farmers have had to sell off their livestock to maintain sustainable numbers considering the diminished natural pasture and costs of buying supplementary feed. In the words of one commonage farmer:

A farmer must sell half of his sheep to feed the other half (commonage farmer Mandla, interview, 2017).

The drought is putting household income security at risk. Some farmers expressed fears that they might never recover from the drought.

8.3.2 Challenges

In my analysis of my interviews and focus group discussions with my sample of small-scale farmers I coded the challenges that they discussed and then organised these thematically. Table 8.7 below shows the main challenges that emerged from this process. These echo those identified in the general literature on small-scale farming (Atkinson, 2013; Okunlola *et al.*, 2016; Aliber *et al.*, 2017; Atkinson & Ingle, 2018).

Table 8.7: Challenges faced by small-scale farmers in Victoria West

Challenge	Commonage (13)	Mardeck (4)	Backyard (6)	Total (23)
Shortage of land	12	2	6	20
Access to water	10	3	6	19
Drought	6	2	3	11
Lack of access to inputs and credits	5	3	3	11
Marketing constraints	5	0	3	8
Extension support services	4	0	4	8
Skills and education	4	2	2	8
Vandalism of government sponsored projects	4	4	0	8
Jealousy	4	2	2	8
Predation	3	2	3	8

Unsurprisingly, shortage of land was the challenge most frequently identified among all the farmers, closely followed by access to water. Here one needs to distinguish between access and size. All six of the backyard farmers I interviewed complained about having no land on which to graze their stock, but “land” was also an issue for commonage and Mardeck farmers. At issue here is not access to land as such, but the amount of land available. Thus Mardeck, a 365 ha. farm with four active users, is one twentieth the size of an average commercial farm in the municipality. On the commonage 15 active users share 6,946 ha. The DRDLR official I interviewed was well aware of the limitations imposed by the size of the land available to farmers:

Land holdings and operations for emerging farmers in South Africa are generally of a small scale and it's impossible to derive a sustainable income from these projects in comparison to fulltime large-scale commercial farming (Tshepo, DRDLR, interview, 2017).

In an arid environment in which stock farming is the primary activity, farm size is a major determinant of profitability and resilience for commercial farmers, even more so in times of drought, as already discussed in Chapter 7. Insufficient land is an even more serious constraint on small-scale farmers' capacity to increase their turnover and reconsider the type of farming enterprises they can engage in. Interestingly, during a focus group discussion with commonage farmers, the farmers who were present highlighted that they were not looking for huge tracts of land through the land reform project, comparable to what large-scale farmers own, as they do not have the capacity to fully utilise such huge farms.

I love farming and I have been farming for over 40 years. When we say we need land the government must understand that we need adequate land for all of us who want to farm to do so without fighting over limited resources like what has happened in the commonage in the past (speaker 7, focus group discussion 1, 2017).

Some of us have in the past wanted to increase our production levels but unfortunately because of the limited land available for small-scale farmers we have been unable to do so. We have even asked the farmers bordering the commonage land, to give us a bit of land but as you can imagine even though they are not using those camps close to us they still said no (speaker 4, focus group discussion 1, 2017).

Access to land and water are linked, with problems around water supply identified by almost all the farmers as another huge challenge. The water infrastructure on both the commonage land and on Mardeck farm is old and unreliable and this has a negative impact on livestock production, and attempts to diversify into new ventures, as with the failed onion project described above.

Water is a problem for us, there is only one water pump on the farm and it's not enough for all the livestock on the farm. If we had other water sources strategically located, then we wouldn't have any problem (commonage farmer Mmngadi, interview, 2017).

This equipment that we received from the government when the farm was given to small-scale farmers is now old and hard to maintain. The water pumps are always breaking down and as poor farmers we cannot afford to repair let alone buy new equipment for use (Mardeck farmer Petrus, interview, 2017).

The chronic problems with water have been exacerbated by the current drought. Farmers have lost some of their livestock directly to the drought while, similar to commercial farmers, they have also been forced to reduce their herd sizes and sell off livestock to cope. Apart from the impact of the drought on the veld, farmers are also battling to provide water to their stock. Backyard farmers said this was a particularly big challenge because the municipality is on a strict water-rationing schedule, because of its low dam levels.

A cluster of other concerns are limiting the ability of small-scale farmers with the interest in and potential to becoming commercial farmers from breaking out of DAFF's "emerging commercial farmer" category, including lack of access to credit. Small-scale and emerging farmers do not have the ability to use the land made available to them under the land reform programme as collateral to access capital that could assist them to expand their farm operations. As already mentioned, this land belongs to the state and farmers only have user rights to the land. Emerging farmers on Mardeck farm also highlighted the absence of aftercare support from the government since the inception of the project. Lack of state support has resulted in deep frustration amongst the farmers:

When we started this project, we were full of hope and excitement, we felt that the government was finally doing something with regards to our plight as farmers, but as has been the trend, it has come to nothing. It is really frustrating because we have the knowledge to farm, but we remain constrained by the lack of resources (Mardeck farmer, interview, 2017).

Farmers also face challenges with financing production inputs that include veterinary services, farm mechanisation, supplementary feed, labour etc. As already noted, small-scale farmers in Victoria West suffer poor market integration because of the lack of transportation while the quantity and quality of their produce is generally of a low grade, making it very difficult for them to compete on the market with large-scale commercial farmers.

Eight farmers, four on the commonage and four farming in their backyards, mentioned the lack of adequate and constant extension support. Extension support is crucial for bringing new skills and technologies to the farmers as well as increasing the understanding of the extension officers of the different challenges faced by farmers that require policy attention. Frances, the Vusisizwe Co-operative chairperson, was particularly vociferous on the question of the state needing to invest properly in building farmers' capacity to take up methods of farming suitable for their environment, participate in agricultural research and develop marketing skills

(interview, 2017). In their defence the DAFF Extension Officers I interviewed claimed they were giving full support to the farmers, but extension support services are more effective when farmers have some education, which was generally not the case in Victoria West (Vicky, interview, 2017). The reality is that among the small-scale farming sector in the Ubuntu municipality illiteracy levels are high, which acts as an impediment to farmers accepting new ways of farming and new information:

Some small-scale farmers though aware of sustainable land use practices choose not to follow them because they are resistant to change. They find comfort in doing what they have always known, though there is evidence it does not work anymore (Vicky, interview, 2017).

DAFF Extension Officers also noted that the farmers they are working with can be self-destructive, because of their inability to work as a group. Farmers on both the commonage and land reform farm have in the past sabotaged these government sponsored projects and are working against each other by destroying or stealing equipment from the farms and from each other. According to the extension officers, the Mardeck project failed because the minute government support was withdrawn the co-operative fell apart because of petty jealousy amongst beneficiaries.

A number of the small-scale farmers I interviewed agreed that “jealousy” and “vandalism” are serious challenges, the latter also linked to predation in one of my focus group discussions. Predation from dogs and jackals is a challenge, as with commercial farmers, but human “predators” were identified as even more of a threat in the focus group:

We have a challenge of some of the people in the community stealing our livestock. So, our huge losses are from dogs and stock theft from within the local community. When large-scale farmers tell you, their biggest challenge is predators because they can bite five, six of their sheep and only prey on one, it is true and evil. In our case we have found out that humans are the worst type of predators because their motives for stealing are also fuelled by malicious intent to sabotage the vision of those farmers that are working hard to make something of their lives (speaker 2, focus group discussion, 2017).

As also mentioned by large-scale farmers in the municipality, albeit reflecting very different social realities, a number of small-scale farmers also expressed regret that the challenges they were facing has fostered a lack of interest in agriculture amongst their youth.

The challenges we face, hours and hours of work and little to show for it is discouraging our children from venturing into farming (Focus Group Discussion, 2017).

My son said to me, 'I would rather be a loafer than suffer for nothing, I will not do it. (Focus Group Discussion, 2017).

This trend amongst the youth was seen as concerning as it signifies a future in which farming will no longer be a prominent feature of life in the Karoo.

8.2.3 Small-scale farmers and sustainable agriculture

When asked about sustainable agriculture, the small-scale farmers I spoke to indicated an awareness of environmental concerns which they attributed to their years of experience in farming, as well as oral traditions and some training workshops run by the agricultural extension officers in the municipality. There was, however, a gap between knowledge and practice. Two main overlapping themes emerged out of my discussion with them on what sustainable agriculture involves: one, the importance of maintaining the health of natural pasture and two, respecting grazing capacity and stocking limits to manage the veld well. Though the issue of social justice did not come up in relation to their formal understandings, awareness of social justice issues came through in their discussions of wanting more land.

With regards to their understanding of sustainable farming, farmers highlighted the need to keep the veld healthy to ensure that their livestock get adequate nutrients for their growth. Maintaining the natural pasture in a good condition contributes to their livestock remaining healthy and disease-free, thereby ensuring that farmers do not have to spend money they cannot afford on veterinary services and that they can obtain decent returns from their livestock on the market. Here farmers mentioned that this was a difficult task, given the fact that they are competing with the white commercial farmers with all their resources. The farmers also exhibited an awareness of the concept of grazing capacity and that grazing capacity on the commonage land was calculated at 4.44 ha/ sheep and 26 ha. for cattle. Grazing capacity was linked to the first point, the importance of maintaining the health of the natural pasture.

During my focus group discussions participants noted that the basic aim of managing the veld is to ensure that the farming methods and practices that are used do not only raise incomes but do so without causing irreversible damage to the environment. Here not only limiting stock numbers but also diversifying livestock species (sheep, goats and cattle) was seen as important, the latter because different species have different eating patterns and choice of fodder. Manure

was also seen as an important source of nutrients for plants and the soil, and thus valuable for good veld management. However, although they showed awareness of the basic principles of good veld management, the small-scale farmers I spoke to in Victoria West were also acutely aware of their limitations in practising them:

There are limited things that small-scale farmers can do to manage the veld, what we try to do is to keep our stock within the stipulated carrying capacities of the land. Once our sheep are lambing, we sell some of the lambs and some of the old sheep to ensure we maintain our numbers as per the contracts with the municipality. If there is a drought what we do is to buy extra supplementary feed for the sheep (commonage farmer Michael, interview, 2017).

In an interesting inversion of the idea of conserving the land for the benefit of future generations, participants in one of my focus group discussions reflected on the reasons why this did not work for them. Traditionally, according to three participants in the commonage farmers' focus group discussion, resource utilisation was determined by need rather than greed; however today they must think not only about present needs but also about securing sufficient resources to prepare for an uncertain future, and this has resulted in the over-exploitation of resources. This view is contrary to the views expressed by those commercial farmers I interviewed, who spoke of the need to act as custodians of their land for the benefit of future generations. However, whereas commercial farmers who own their land can bequeath it to their children and grandchildren, small-scale farmers do not have the same opportunities as they neither own the land on which they farm nor enjoy secure rights over it under the current dispensation around both Mardeck and the Victoria West commonage.

As Blaikie (1985) highlighted in his pioneering work on political ecology, environmental problems such as soil erosion are a manifestation of wider political and economic processes linked to the spread of capitalism. Because of the political and economic processes described in Chapter 5 that have denied small-scale farmers in Victoria West secure access not only to adequate land resources but also to the education and non-farm opportunities that their white counterparts in the municipality have enjoyed, they are driven to over-utilising the resources available to them, leading to the degradation of the very resources on which they depend. By way of example, rotational grazing is impossible for the small-scale farmers on Mardeck and the commonage to practise, because the camps on the commonage are too few and too small to accommodate the herds of all the farmers with legal rights to use that land. As already highlighted, overstocking on the commonage by some users is rife.

In an emotional outburst Frances, the co-operative Chairperson, pointed out the constraints under which they are farming compared to commercial farmers:

In a large-scale commercial farm, a single grazing camp can be 500 ha. with one farmer having at their disposal at least 12 camps available for seasonal rotational grazing. But us black farmers we must share 500-600 ha amongst 5 farmers. What rotational camp grazing can we have under such conditions? Before I farmed on the municipal land, I was farming on Mardeck, and it's just the same thing maybe even worse. On Mardeck there are 6 or 7 farmers sharing a 300-ha piece of land. We cannot talk about sustainable grazing under such conditions, farmers just must make use of the available resources as best as they can (interview, 2017).

Commonage farmer Mandla expressed very similar sentiments during one of my interviews:

The issue is land; we do not have big parcels of land to practise the camp system. So, what we do to try and ensure that the land doesn't get overgrazed is to stock under the capacity of the land. If we can graze 100 sheep, then we graze only 75. We have petitioned for more land but to date we are still waiting. It's easy to see once the veld is in bad condition, the Karoo bush goes dry and do not flower anymore, we try to sustain the veld for future productivity because it is the only land at our disposal, but this is difficult with limited resources (interview, 2017).

Small-scale farmers maintained that the lack of government support incapacitates their farming operations as they do not have the financial resources to invest in water infrastructure, dipping pens, adequate fencing and sustainable rangeland management systems themselves. However, to mitigate some of these challenges, farmers in the Vusisizwe Co-operative are attempting to pool their resources to improve the basic infrastructure on the commonage.

8.4 Small-scale farmers in Victoria West and game farming

8.4.1 Views on the potential of game farming for themselves

To explore small-scale farmers' views on the land-use change to game farming taking place in their area (and South Africa more widely) and whether they would ever consider game farming for themselves, I began by asking the small-scale farmers in my sample some basic questions to gauge their knowledge of game farming. Table 8.8 below shows the responses.

Of the 23 interviewed farmers, only 14 knew what game farming is. Most of these were younger farmers, in the age cohorts of 36-45 and 46-55. Included in this number were the farmers with primary and secondary education as well as the one farmer with a post-matric National Certificate (non-agriculture related). Furthermore, these farmers included those who were employed on either a full-time or part-time basis in the municipality (including the policeman, the prison warden and the teacher). The group of nine farmers who said they did not know what actually happens on a game farm included two women farmers. These farmers who did not know what game farming is, asked me to explain it to them. After I had done so, most of them said they associated “wild animals” with National Parks and nature reserves, not with private farms.

Of note was that fewer than half the interviewed farmers (10) were aware that there are game farms in the Ubuntu municipality; here all 10 who did know that there were game farms in the municipality were able to identify the two largest and best-known game farms in the area. However, none of the farmers I interviewed had been to any of the game farms in the municipality. The reasons they gave when asked why this was the case were firstly, that they did not have money to access these farms, and secondly, noted by two of the farmers, that game farms were a “white” pursuit, thus not for them.

Table 8.8: Small-scale farmers’ understandings of game farming

Question	Commonage Users (13)		Mardeck Users (4)		Backyard Users (6)		All farmers (23)	
	Know	Don't Know	Know	Don't know	Know	Don't know	Know	Don't know
What is game farming?	9	4	2	2	3	3	14	9
What happens on a game farm?	7	6	1	3	2	4	10	13
Are there game farms in the municipality?	6	7	1	3	3	3	10	14

Given the lack of knowledge around game farming the possibility that farmers would have considered this as a pursuit for themselves could be expected to be very low. Nevertheless, following on from the basic knowledge questions, I also asked the farmers I interviewed if they would ever consider game farming as a livelihood option for themselves. Only seven of the

farmers, all from the 14 who had indicated some knowledge of what a game farm is, said they would consider game farming as a livelihood option should they have sufficient support to be able to branch out into it. Similar to what I had found among commercial farmers, it was the younger farmers, those falling in the age cohorts of 36-45 and 46-55, who indicated an interest in this type of farming. The older farmers all said they would rather stick with what they know as they are too old to “learn new tricks”. Of note here is that two women who had some knowledge of what a game farm is did not include themselves among those who said they would consider it, because they regarded it as a “male” type of farming.

8.4.2 Views on prospects for aligning game farming with land and agrarian reform

As mentioned in chapters 2 and 4, the Department of Environment and Nature Conservation in the Northern Cape has made some attempts to draw emerging farmers into the game farming sector at a provincial level. These efforts have involved capacity building programmes, facilitating the donation of wildlife to emerging farmers and finding mentors for emerging game farmers in the province. As part of my exploration of prospects for game farming among small-scale farmers in Victoria West I also asked the small-scale farmers in my individual interviews and the focus group discussions if and how they thought game farming could be aligned with a land reform programme aimed at making agricultural land available for black farmers, and make it possible for those farmers who might be interested to become part of this sector. I also discussed the issue with key informants in DAFF and the Department of Environment and Nature Conservation.

I have clustered the responses I obtained under three headings, all of them challenges around incorporating small-scale farmers in the game farming sector even without the additional challenge of the drought that is pressing down on the municipality: land, knowledge/mentorship and capital. The implications of these findings for my study are revisited in the next, concluding chapter.

Land

Most of the small-scale farmers indicated that land is the key factor shaping most of their choices and options as farmers. Very limited access to land and lack of property rights have kept them tethered to production systems that are not as productive as those enjoyed by white farmers and held them back from prospering. The farmers stressed that ownership of sufficient

land is key not only for contemplating becoming a game farmer but also for being a successful livestock farmer, their main priority:

I've not even achieved my long-life dream of being a successful large-scale livestock farmer, how can I even dream of being a game farmer. It just seems impossible (commonage farmer Andrew, interview, 2017).

First, the government must give us the land we were promised, then as farmers we have an opportunity to dream further from this commonage land (speaker 5, FGD 1, 2017).

Overwhelmingly, small-scale farmers' priorities for land reform in the Ubuntu Local Municipality centre on land (and support) for livestock farming.

Skills and mentorship

Small-scale farmers in Victoria West generally have very limited or even no formal education., as already noted. A significant number are illiterate, which the officials in the municipality consider a major obstacle to their benefitting from the extension services that are provided. Most of the farmers felt their lack of knowledge around game farming would work against them and it would be very difficult to learn new skills. However, a few of the younger farmers said they would be willing to learn and accept mentorship if it would help them become game farmers. I took this to be an expression of interest in learning about new things rather than a serious commitment to game farming as a potential option for them, as the discussion around the capital constraints facing small-scale farmers made evident.

Capital constraints

While in Kimberley I had the opportunity to interview Patrick, the Biodiversity Officer working on the emerging farmer project in the Northern Cape Province. According to him game farming is not for everyone and thus the project his Department is running is targeted at those who are already in a position to farm commercially:

These are people who can afford to do this, so this is not transformation of a poor black man, these are people who can afford to hire a farm for 10 years at R800,000/year and can purchase the game and all the required inputs to make this a successful initiative. This is because you can't just take a poor man out of the street and make him into a game farmer. Our first approach: It must be someone who can afford it and has interest

in the industry. Our second approach: is to train that farmer through skills transference and make him into a game farmer (interview, 2017).

His position was entirely consistent with the understanding among white commercial farmers about game farming as a particularly capital-intensive undertaking that is beyond what many commercial farmers can aspire to. However, as my overview of the game farming industry as a whole has made clear, the industry is differentiated both in terms of its activities and the target market within each sub-sector – for instance between the high-end “safari lodge” hunting and tourism enterprises and those that are aimed at more middle-income markets, as in biltong hunting and those enterprises offering non-consumptive leisure activities such as birdwatching and “bush” experiences on farms that do not stock the “big five” species. Beyond this are the business sectors allied with the game farming industry, such as transportation and the off-farm tourism and hospitality sectors. These are issues I pick up on in the next chapter.

Overall, however, what became increasingly clear during my fieldwork was that although there is space for new black entrants within the game farming industry itself, this is not a livelihood option for the average small-scale farmer, not only because of the preferences of these farmers but because of the nature of game farming itself. Class, as already discussed in Chapter 4 in relation to the industry as a whole, has a huge bearing on who can participate successfully in the game farming industry. Beyond having access to land, successful entry is also determined by access to financial resources.

Land reform beneficiaries’ need for capital resources to farm successfully once they have been given land is a major problem within the current programme and this problem would be particularly acute in the case of game farming. Patrick reflected on this in identifying what he has observed are the two major constraints facing emerging farmers as beneficiaries of land reform programmes, infrastructure beyond land and post-settlement support:

There are two challenges. The first is that the LCC (Land Claims Commission) and the Department of Rural Development and Land Reform when they purchase the farm targeted for land reform, they only purchase the land. In the case of a game farm it means that by the time the new beneficiaries move onto the farm there is nothing – no infrastructure, no animals. This is what we are trying to correct as part of the task team that I mentioned before. The second issue is the lack of any support post settlement, these beneficiaries have no clue as to what to do and where to even begin. As part of the task team we assess these farms before they are bought and then we determine what the land use for the land should be (Biodiversity Officer, interview, 2017).

Farmers would not only be faced with re-equipping the farm and developing the necessary infrastructure required for their game farm operations but also with the challenge of buying the game animals to stock the farm. Kennedy, the pioneering game farmer in the Northern Cape who is also a mentor to new entrants into game farming in the province, had this to say to me on this subject:

When the Department of Nature and Conservation started this project, as pioneer game farmers we stated that for this venture to be successful, land reform beneficiaries should also have top-quality genes animals. For example, a female sable is selling at R60,000 however I sold a female sable at 1,5 million because it was top notch genes. The quality of animals being given by the National Parks to land reform beneficiaries are not quality genes and therefore the best they can make is R60,000 which diminishes these emerging farmers' ability to compete successfully in the wildlife industry with farmers who have experience and top genes. This resulting in accusations of failed promises of the profitability of game farming as their animals cannot fetch high prices. You need capital, it's all well to give someone a farm and say go farm with wildlife, but there is much more needed (interview, 2017).

Small-scale farmers I interviewed were also very clear that they can barely finance their current small livestock operations and it is thus inconceivable for them to imagine themselves as game farmers, competing with established white farmers. One farmer expressed his struggle to avoid disappointment by not hoping for too much in this way in one of the focus group discussions:

Sometimes ambition is all it is, we can hope, we can dream but some things in this country don't seem like they will change soon. It's better to accept who you are, that way you don't have to be disappointed (focus group discussion participant, 2017).

Farmers in the municipality in general expressed the feeling that the government has failed them as black farmers, and they would rather not invest in hope – or in unfamiliar and risky new ventures.

8.5 Conclusion

This chapter demonstrates how small-scale farmer's limited access to resources shapes the way the resources are used and the livelihood outcomes they can generate. Like the commercial farming sector, the small-scale farming sector in Victoria West is male-dominated and differentiated in terms of the skills, motives for farming, incomes, herd sizes and access to

environmental resources within the group; these divisions make co-operation among farmers who are expected by the state to farm collectively with very limited resources difficult. However, the stark differences in access to the basic resources needed to farm mean that the commercial and small-scale farming sectors are effectively worlds apart, although both are operating in the same arid environment, within the same local municipality. The significant environmental challenges (drought, land degradation) of farming in the region are thus exacerbated for small-scale farmers as a consequence.

Though small-scale farmers have some awareness of the importance of sustainable agricultural practises, their practice is constrained by the limited resources available to them for farming, including those of land, water and education. Their knowledge of game farming is extremely limited or non-existent. Farmers' choices are determined by what is familiar, hence seen as less risky, but also by their struggles to make what they are currently able to access work better for themselves; thus, while some of the younger farmers did express interest in the possibility of game farming, their aspirations are limited by their circumstances. What farmers emphasised is the need for the state to first address their plight as livestock farmers, before they could consider venturing into other livelihood ventures. Local state officials also recognise that game farming is a capital-intensive process that is not suitable for the resource-poor small-scale farmers in the municipality.

Chapter 9: Conclusion

This dissertation has had three main aims. The first was to understand the views of commercial farmers in the Ubuntu Local Municipality on game farming and its relationship to sustainable agriculture in this region, including the motivations of those who are making the switch from livestock to game farming and what light this throws on larger debates on the extent to which game farming is contributing to biodiversity conservation and/or is being driven by resistance to land reform and a more equitable social dispensation in the South African countryside. The second was to bring to the fore the views of a neglected constituency in the debate on the merits of game farming, that of black small-scale and emerging farmers and to factor that into the larger debates. The third aim, flowing from the first two, was to explore if and how the trend towards game farming in the Northern Cape could be aligned with sustainable land and agrarian reform, including through the inclusion of black small-scale and emerging farmers in the industry.

In order to address these aims I developed a conceptual framework that draws on political ecology as well as an understanding of sustainable development in which the issues of social and economic justice are considered as non-negotiable imperatives, along with the recognition of the need for economic development to work within and not transgress “planetary limits” (Holden *et al.*, 2018). Key to the latter is an appreciation of the conservation of biodiversity in terms of conserving eco-systems and habitats, not simply iconic individual species. The combination of political ecology and sustainable development has been valuable for recognising the complex challenges facing the agricultural sector in the Karoo at a time of significant social and ecological change. The Karoo is a semi-arid region that, because of its environment and history, has remained largely uncultivated rangeland dedicated to extensive, small livestock farming, most of it still in white ownership; the Ubuntu Local Municipality, my case study site, has been recognised as a particularly good area for sheep farming since the late 19th century. Today the gravest ecological challenge all farmers face is that of climate change which is seen by most experts as implicated in the persistence and extent of the current drought. The drought was a feature of the area throughout my fieldwork; in my view it is forcing a rethink of what sustainable development involves in this part of the Northern Cape.

In this concluding chapter I review the key themes emerging from my research findings in relation to my main research questions as outlined in Chapter 1 and summarised below:

- 1) What considerations are driving commercial farmers in the Ubuntu Local Municipality to shift to game farming?
- 2) What are the views of emerging and small-scale farmers in the Ubuntu Local Municipality on the potential of game farming for themselves and what is shaping these views?
- 3) What constitutes sustainable agriculture (understood as a form of farming that is aligned with the core principles of sustainable development) in the context of the Ubuntu Local Municipality?

This concluding chapter is structured as follows. In section 1 I review the scope and development of game farming within Ubuntu Local Municipality and the motivations of the commercial farmers who are shifting, albeit not exclusively, towards it, as well as the responses of small-scale farmers to the possibilities of game farming. This is followed, in section 2, by a discussion on farmers' strategies for sustainable land management in the local municipality and then, in section 9.3, a review of my main findings on game farming and sustainable agriculture in terms of the three dimensions of sustainability informing my conceptual framework. This includes a discussion on the prospects for aligning this form of farming with land reform. Finally, in section 9.4 I reflect on what this study suggests about game farming and sustainable development in the Karoo in a context of significant social and ecological change.

9.1 The scope of game farming in the Ubuntu Local Municipality

The growth in game farming has been ascribed to a range of variously weighted economic, ecological and political factors, the analysis of which have been enmeshed in contentious debates. These have tended to take place in separate silos with advocates and critics of the game farming industry largely talking past and not to each other. While advocates have heralded the significant economic growth of the sector and its contribution to national and provincial GDP as well as its role in the conservation of certain endangered species of wildlife, critics have argued that the shift to game farming has been “doused in greenwashing” (Welz, 2017). It is deeply implicated in the dispossession of farm workers and dwellers and has shifted attention away from the imperatives of land reform. These debates were reviewed in chapters 2 and 4, while the history of dispossession that has led to the current inequalities in land ownership and livelihoods in the Northern Cape was outlined in Chapter 5.

This study has attempted to engage with both sides of the debate and the different actors within it. In this regard one of its contributions has been to give voice to farmers on the ground in evaluating these debates in the specific context of the Ubuntu Local Municipality. This has involved both commercial farmers (who are often talked about rather than talked to within much scholarly work on land and agrarian change in South Africa) and small-scale farmers, a particularly neglected constituency in relation to game farming, with a very particular history in the Northern Cape, as described in Chapter 5. A related contribution of the study has been to look at both large- and small-scale farmers together, facing some common challenges in terms of the drought, predation, weak local government and lack of state support, even if at very different scales. Farmers' views are essential for understanding the considerations that shape the decisions they make around land use and livelihood options and what they regard as the primary challenges they face.

Both groups of farmers have been shown to be internally differentiated and not all to share the same interests in farming. Commercial farmers are also not all equally interested in shifting to game farming, with the majority of Ubuntu farmers still committed to livestock over game farming for several reasons, including tradition and the fact that the area is seen as historically good for sheep farming. While game farming is embedded in economic, political and social processes that have national dimensions, its attractiveness is also shaped by local conditions in which the regional environment is a critical factor. My research findings in the Ubuntu Local Municipality show that game farming is not the preferred choice of all the commercial farmers in the area but that there are pressures, environmental, economic and political, that are making game farming increasingly attractive to farmers with the financial resources to branch into it as part of their strategy to diversify income streams. The farmers who are switching to game farming are motivated primarily by economic considerations relating to the greater financial benefits that can be derived from game farm operations. Concern with biodiversity conservation is not the primary motivation for commercial farmers whose livelihoods depend on the profitability of their enterprises. However, good veld management that protects the quality of land cover and the health of the game on the farm is recognised as critically important for successful game farming – in principle acknowledged by all the commercial farmers I interviewed, although practice is more uneven.

The small-scale farmers I interviewed shared many commercial livestock farmers' commitments to livestock farming as a traditional livelihood, well suited to the area and something with which they are familiar and wish to continue. Unlike the commercial farmers,

however, game farming is not something that they are aware of as an option; for most it is beyond what they can imagine for themselves: it is a “white” endeavour, as I was told. Ubuntu small-scale farmers do not only not have access to the land, capital or skills required to branch out into such an option – it is also not seen as a priority for them. The general feeling among small-scale farmers was that their first priority is a land reform programme that works for them as livestock farmers: if they cannot farm on a larger scale with the livestock with which they have experience in farming, how can they even think of game farming? Their greatest need is for land, along with financial and other support. Their views resonate with the findings of many scholars on “the land question” in South, including Aliber (2015), Beinart & Delius (2015), Hall (2015) and Cousins (2018).

In my interviews with them the issue of whether game farming is taking land away from land reform did not arise as a specific issue. There was generally very little awareness about the game farming that is taking place in the municipality, with commercial farmers seen for the most part as an undifferentiated group of privileged white people. While small-scale farmers certainly are interested in a land reform programme that will make more land available for them (but not necessarily in farming full-time), it seems that for them the inequalities in land ownership between black and white are as stark in relation to the commercial livestock farmers in the municipality as to the game farmers.

As discussed in Chapter 7, commercial farmers within the Ubuntu Local Municipality who are switching their farming operations to game farming are only doing so partially. Farmers who have diversified their income portfolios to game farming view having both game and livestock income streams as important for providing an economic safety net, especially at a time of considerable environmental stress as a result of the drought but also because of the general economic and political uncertainties they face. The continued interest in livestock farming reflects the extent to which the Ubuntu Local Municipality is recognised as a very good area for livestock farming, with a history of successful sheep farming at scale stretching back into the 19th century. However, current conditions are forcing farmers to diversify their farming activities to include activities beyond producing primary products (meat and wool) for the market. The issue of the need to diversify livelihoods was a major discussion point throughout my interviews with commercial farmers, including livestock farmers. It also was an issue in my discussions with small-scale farmers for whom having livestock is important as a supplementary source of income. What this points to is the potential for game farming to

function as one strand in a more diversified rural economy in the municipality, an issue I return to further below.

As already noted, economic considerations were uppermost in shaping the priorities of all the farmers I interviewed, with commercial livestock farmers also highlighting the importance of cutting production costs and venturing into other income streams such as lucerne and garlic farming, stud breeding and ecotourism in some cases. However, farmers insisted that in order for them to farm successfully they have to take environmental issues into consideration and manage their land well. Concerns around drought and climate change have heightened their awareness of the need to consider environmental issues in their farming and to look after the veld. Here the shift to game farming is also been driven by the recognition that wildlife are more resilient in times of drought. (Otieno, 2016) has argued that the urgency around issues of climate change currently and into the future necessitates a thorough study into the sustainability of the game farming sector as an alternative to livestock farming in the Karoo and whether wildlife can play a role in climate change adaptation. I concur that this is an important issue for further research, one in which the concerns around social and economic justice highlighted in this dissertation would, however, need to be recognised as central considerations for assessing sustainability in this area into the future.

A further issue that emerges through my study is that there are generational differences in attitudes towards game farming which are playing out in the search for alternative sources of income within this historical livestock region. Today the children (sons) of commercial farmers are, as discussed in Chapter 6, far less likely to follow in their fathers' footsteps and take over the family farm than was the norm in their fathers' and grandfathers' time. This means that if the current trajectory is maintained, the racial profile of commercial farming in the municipality is bound to shift in coming years, along with the consolidation of land ownership and, most likely, a reduction in the number of family-owned farms in favour of more corporate owners. Among the farmers who are active, it is the younger farmers, as discussed in chapters 7 and 8, who are most open to new ideas and ways of farming that can prove beneficial for the environment into the future. Though Victoria West has been a relatively stable farming community, with deep cultural roots in livestock farming among both its black and its white population, there is increased interest in game farming amongst the younger generation of commercial farmers in the Municipality; as already noted, some younger small-scale farmers also expressed a degree of interest in this sector of farming as something new to consider if the conditions were more favourable for them.

9.2 Sustainable land management in the Ubuntu Local Municipality

Although farmers within the Ubuntu Local Municipality all operate within the same agro-ecological conditions, their livelihood systems are differentiated in terms of their ability to harness the resources that are key to maintaining sustainable livelihoods. As reflected in chapters 6, 7 and 8, the profile of farmers in the municipality is differentiated not only in terms of “race”, the latter tied to the scale of the enterprise, but also in terms of education, appetite for risk and innovation, commitment and capacity to practise “hands-on” farming, and the capital resources with which to maintain or expand their farming operations. All these factors influence the way the individual farmer approaches the issue of sustainable land management. However, the options open to large- and small-scale farmers as social categories are the product of a history in which power and “race” have worked to advantage the former and disadvantage the latter in ways that are still playing out in the municipality.

Commercial farmers in the Ubuntu Local Municipality have large parcels of land as a result of their being beneficiaries, as a social group, of first colonialism and then the apartheid regime. This means they have options when it comes to their veld management practices which small-scale farmers are denied. Most commercial livestock farmers use variations of rotational grazing systems to ensure the sustainable utilisation of the veld. Other strategies that commercial farmers utilise include culling, to observe recommended stocking rates and grazing capacities for the region and also to manage the specific conditions on individual farms. Though commercial farmers receive little in the way of direct government support, they have the capacity to raise loans from various financial institutions, using their ownership of their land as collateral; they also have educational resources and relatively powerful and well-resourced national organisations to draw on. However, this does not negate the fact that this sector is also stratified in terms of financial resources and under current conditions it is those with the greatest reserves in terms of capital who are surviving most successfully.

In this context another coping strategy that is becoming more evident in the area is land consolidation, which is leading to even larger farms, on which lower stocking rates are manageable, as well as a reduction in the number of individual farmers operating in the region. This has also been accompanied by a reduction in the number of full-time farm workers in employment, a national trend that is evident in the Ubuntu Local Municipality. Most of the game farmers in the municipality have had to purchase additional land to support their game

farming operations, and, as mentioned in Chapter 7, land values in the municipality remain on the high end. This is clear evidence that access to game farming is not simply an issue of “race” on its own but is also determined by class. Although some commercial farmers in the municipality see the attractiveness of game farming under prevailing conditions, their prospects for shifting to game farming are curtailed by financial constraints.

Here an issue that emerged through my study as an issue for further research is whether game farming could be further developed in the district to include more farming with the abundant and relatively cheap plains game that is present, for meat, biltong and skins, rather than the more “high-end” farming with highly priced rare species. As suggested in the previous chapter, this is an option that needs to be explored in relation to expanding the pool of black emerging farmers who could, potentially, branch into this aspect of game farming, with appropriate support.

Options for small-scale farmers to cope with environmental change area and practise sustainable land management are, as already made abundantly clear, much more constrained. Small-scale farmers in the Ubuntu Local Municipality face a critical shortage in the resources needed to farm sustainably. While they showed awareness of the importance of good veld management and adhering to stocking rates and practising rotational grazing, small-scale farmers in Victoria West are unable to put these principles in practice because of their very limited access to land, whether on the commonage or the Mardeck farm that the state made available to emerging farmers in 2007. Overcrowding on this land is a serious problem; weak local institutions also mean that management of infrastructure is poor and conflicts among members with different reasons for farming make collective action difficult. While provincial government departments do offer some levels of technical and extension assistance, this is not consistent, and take-up is generally poor. The municipality is struggling to play its role in enforcing its own regulations around the number of livestock that farmers can keep on the commonage land. This has led to severe degradation of the land which compromises the productivity of small-scale farmers. Small-scale farmers also do not have access to collateral like commercial farmers and this impacts further on their productivity in the municipality.

The limited availability of land for small-scale farmers in the municipality has resulted in the growth of backyard farming in its small towns (where the majority of the population of the local municipality resides), which many local residents utilise as a secondary but in some cases primary source of household income. Unfortunately, urban grazing has negative consequences

by depleting the natural resources of the open spaces in and around the town, while also being a precarious environment for livestock from both safety and nutritional points of view. Public health issues were not something I explored through my study, but this is another issue of concern.

Given the importance of livestock as an asset for poor urban households, the prevalence of backyard farming, along with the pressure of numbers on the existing commonage, the need for municipal commonage to be expanded in the Ubuntu Local Municipality is clearly a prerequisite for working towards sustainable land management and a more sustainable agricultural sector in the area.

9.3 Game farming and sustainable agriculture

One of the major concerns of this research was to engage with the debates on game farming and its contribution to “sustainable development” as a form of sustainable agriculture. As the discussion in Chapter 2 has made clear, where one stands on this issue depends very much on one’s understanding of sustainable development. In this study sustainable development is understood as embodying more than the conservation of the environment, to include concerns with economic and social justice goals as well.

What has also emerged through my study is that game farming is highly differentiated, and the industry as a whole extends beyond the individual farm gate to include a range of subsidiary activities and enterprises such as transportation, taxidermy, auctions and the tourism sector. The diversified nature of the industry across all its sub-sectors needs to be borne in mind in evaluating the contribution of the industry to sustainable development and its potential in terms of rural development more broadly.

9.3.1 The economic dimensions of sustainable agriculture

Numerous studies have been undertaken on the contribution of game farming to the economy in South Africa. Though its economic growth and contribution to national and provincial GDP are widely acknowledged, there are concerns around how the economic benefits are distributed within the rural communities in which the conversion to game farming is happening. Disentangling the economic and the environmental issues is thus very difficult because of the

way in which game farming depends on the natural environment as a primary input. In this regard, as discussed in chapters 2 and 4, there are major concerns around the commodification of nature in the name of “conservation” and the negative implications of this for the sustainable utilisation of scarce natural resources, such as water and particular species of fauna. Furthermore, there has been a major backlash from conservationists against some of the practices that have taken root within the industry that are not consistent with the basic principles of biodiversity conservation and that offend moral values around cruelty and fairness in the treatment of other species; examples of such practices include the breeding of exotics and canned hunting.

Game farmers whom I interviewed in the Ubuntu Local Municipality were clear that game farming can be profitable for the individual farmer, if properly managed, but also allied themselves with spokespeople for the industry in terms of the wider economic benefits that the sector has brought to the Ubuntu Local Municipality. These centred on an overall increase, rather than decrease, in employment opportunities in agriculture, along with an increase in business activities in local towns, with spinoffs also for the informal sector.

While both livestock and game farmers acknowledged the ongoing reduction in the number of permanent, full-time farm workers on farms in the area (discussed in chapters 6 and 7), several game farmers maintained that they have had to hire more labour for the game side of their operations, which they are running in conjunction with the livestock operations on portions of their farms. Furthermore, four of the 11 game farmers I interviewed, all of whom have eco-tourism enterprises on their properties, have had to hire more staff to service these enterprises as well as maintain the fencing and other infrastructure on their farms. Their net employment numbers have thus increased rather than decreased. They also maintained that at least some of these new jobs are better paid, with better prospects, than the average farm worker’s job. However, although new jobs have been created, displaced farm workers are not necessarily able to take them up, because they do not have the necessary education and/or skills; the jobs are often also seasonal, and their availability depends on how well the business is doing. There is also a gender dimension here, with women rather than men being preferred as new employees in the hospitality side of game farming.

My study has also provided evidence of game farming having some positive spinoff effects in the municipality in terms of increased business opportunities in the local towns. The municipal manager of Victoria West was positive about the increase in bed-and-breakfast operations in

the town, along with other small businesses related to tourism and travel, visible in an increase in financial service institutions, service stations and local supermarkets. This is also something that I observed during my fieldwork. As highlighted during my interviews, the increase in economic activities in the town has created some jobs for local people; quite how many, however, is something for another type of study to address. Of interest was that some key informants also saw these spinoffs as benefitting unemployed women in the municipality, with most of the new service-sector jobs in town being taken up by women.

The increase in the tourism trade in the municipality overall has also provided a boost to the informal sector, in particular opportunities for some local residents around making and selling curios and souvenirs for tourists. Some game farmers mentioned the occasional hiring of dancers and singers from within the broader community, to entertain their guests. However, those best placed to capitalise on the commercial opportunities in town tend to be members of the old white elite, with the properties, skills and financial resources to invest in new businesses, along with some members of the small new black elite who are also well positioned to know about and access new business opportunities in town.

As discussed in Chapter 3, one of the limitations of my study is that it did not extend directly to farm workers and farm dwellers, both current and former. As such, issues around “decent work” and tenure security for farm workers, which is a major concern in evaluating the game industry in terms of economic and social justice, were not fully addressed. Clearly farm workers remain a very vulnerable group; this, however, is as true for farm workers on livestock farms as it is on game farms.

9.3.2 The ecological dimensions of sustainable agriculture

The ecological benefits of game farming in South Africa have been contested, mostly because of issues related to overstocking (to increase the return to farmers), questionable practices like canned lion hunting and breeding for colour traits, as well as selective breeding aimed at producing “freaks” and excessively priced game for sale. However, as noted in my review of the sector in Chapter 4, not all game farmers engage in these activities, and these practices were certainly not general in my study site. Thus none of the game farmers I interviewed in the Ubuntu Local Municipality were involved in the breeding of colour variants. Furthermore, a number were outspoken in their criticism of one local farmer who was farming with rhinoceros which they considered not suited to the ecology of the region.

Some studies (Bothma, 2002; Sims-Castley *et al.*, 2005; Langholz & Kerley, 2006) indicate that game farming can be environmentally friendly if farmers ensure the sustainable utilisation of their natural resources. The game farmers I interviewed in the Ubuntu Local Municipality maintained that because game farming is a capital-intensive investment, farmers are incentivised to ensure the sustainable management of their resources. In the words of one game farmer I interviewed:

Though the mantra ‘if it pays it stays’ has been overused by critics of game farming, it is also true that if it pays I want to make sure it doesn’t die so it continues to pay me. This is a motivation for game farmers to be environmentally conscious (Daan, interview, 2017).

From this perspective, while the farmer’s motivation to manage his game and veld sustainably was instrumentalist, the results were environmentally beneficial.

Ubuntu commercial farmers also emphasised that the prolonged drought in the region and the losses farmers have incurred as a result have forced those farmers who want to continue to thrive on the land to review their stocking and grazing strategies and manage their veld optimally. Thus, although the adoption of “green” principles by the game farming industry is driven by the profit motive (as in other industries), there is a growing awareness among farmers that humans have a symbiotic relationship with the environment and the best way to ensure a sustainable future is to respect environmental limits. The awareness of environmental limits in terms of an understanding of the agro-ecological potential of one’s farming area was also present among the livestock farmers I interviewed.

At the same time, the understanding of biodiversity conservation was subordinated to the requirements of making a decent living on the individual farm, and at times equated with the conservation of particular species (for instance, the endangered riverine rabbit), rather than with the conservation of eco-systems across farm boundaries. Contemporary conservation efforts in South Africa operate in the shadow cast by the history of white settler and apartheid policies. Game farms as spaces of biodiversity conservation are challenged by critics because of their privatised nature and exclusion of categories of people, notably farm workers and farm dwellers, in the name of conservation. However, given the limited allocation of land to habitat protection by the state in the Nama Karoo, the farming sector as a whole is critically positioned to impact positively or negatively on the region’s extensive but fragile natural resource base. As has been argued by different wildlife associations and game farmers in South Africa, game

farming can contribute to habitat conservation as well as the protection of rare species, if environmental limits are observed, in this regard working alongside protected areas and community-based natural resource management (CBNRM) initiatives in South Africa. The need for this is increasing in the face of threats posed by poorly planned urban growth and extractive industries, including, in the case of the Karoo, proposed investment in shale-gas and uranium mining.

9.3.3 Social Justice and sustainable agriculture

One of my major interests in undertaking this study was to explore the complex set of issues relating to the social impacts of game farming and to what extent it could contribute to social justice in South Africa, in particular in relation to land and agrarian reform. Here my findings are mixed. While economic considerations are the dominant drivers in shaping commercial farmers' motives for shifting to game farming – or remaining with livestock farming – concerns around farmer security and an uncertain land reform policy context are certainly factors in the decisions they are making related to their farming strategies. Very few commercial farmers showed a sense of personal or family responsibility for addressing the broader context of racial divisions, poverty and inequality that is visible in the municipality, seeing this as the responsibility of the state, a responsibility that it was failing to meet. The few farmers who did show a sense of social responsibility beyond the minimum requirements of treating their workers fairly within the parameters set by the legislation, generally did so in a paternalistic way.

My research findings from the Ubuntu Local Municipality also confirmed what has already been established through many other studies: that though land reform is urgently needed in the area, both to deracialise commercial farming and to provide land for black small-scale farmers who are desperate to access it for different household purposes, the few land reform projects that exist in the district are failing to meet the needs of the beneficiaries of these projects. As my discussion of the challenges facing small-scale farmers on Mardeck farm has made clear, state support in terms of adequate aftercare (extension support, financial support, skills and training workshops etc.) is lacking; furthermore, the size of the farm is insufficient for the number of farmers for whom it has been acquired. Furthermore, while commonage farming has been identified by a number of analysts as having significant potential as a form of land reform, the land set aside as commonage for small-scale farming in Victoria West is grossly

insufficient to meet the needs of those who have been granted permission by the local municipality to access it, never mind address the pent-up demand for land among town residents more generally.

At the same time, my study has also confirmed that the game farming industry is not itself a suitable vehicle for pro-poor land reform, because of the capital costs involved in becoming and remaining a game farmer. However, the Ubuntu Local Municipality does serve as an interesting case study of the co-existence of livestock and game farming, including on the same farm, and this co-existence offers a promising avenue to explore further, in thinking about land reform not only at the individual farm enterprise level but also at the district level. Of interest here is the evidence that a well-regulated and supported game farming sector could stimulate not only new on-farm opportunities but also off-farm opportunities within the municipality.

Furthermore, though the potential of game farming as a pro-poor vehicle of growth is clearly limited by the factors that have been discussed, there is an under-explored potential to draw in black farmers who are financially capable of venturing into the sector, not only at the very high end, as mentioned in Chapter 4, but also at what could be considered the middle-range of the spectrum. There may well be opportunities, for instance, for interested and capable small-scale farmers to be supported in expanding into biltong hunting or taxidermy or transportation operations, through a more effective and broadly conceived land and agrarian reform programme in the district. Here possibilities for collective game farming by well-run, well-supported trusts and co-operatives also warrant further investigation. Any such investigation would, however, have to engage seriously with the numerous challenges small-scale farmers are currently facing, as well as their lack of familiarity with game farming and suspicions of it as a “white” activity in the first instance, as well as a “male” undertaking that excludes women.

9.4 Game farming and sustainable development in the Karoo

The Karoo has long been a site of contestation over resources. The economy of the Karoo has hinged on commercial livestock farming since the mid-19th century but in the current conjuncture this sector is threatened by many challenges, most urgently the environmental challenges of drought and climate change but also competition from a range of externally driven new land-use developments in the form of renewable energy projects, the installation of the Square Kilometre Array telescope and proposed shale gas and uranium mining (Henschel,

Hoffman & Walker, 2018; Walker & Chinigò, 2018). Diminishing returns from farming are impacting negatively on the economy of small towns which are burdened with many social problems. The Karoo is thus facing a period of significant social and ecological change.

Against this background, my research findings presented in the preceding chapters have generated the following answers to my main research questions. Firstly, the switch to game farming in the Ubuntu Local Municipality among commercial farmers has been spurred primarily by economic calculations relating to maintaining farm profitability through diversifying income portfolios. At the same time there is strong support for the retention of livestock farming; not all farmers have the necessary capital to make the shift and those that are doing so in the Ubuntu Local Municipality are in fact retaining an interest in livestock farming as well. Commercial farmers' economic calculations are bolstered by concerns about security and perceived threats from land reform, but these considerations are not the driving force behind the growth in the game farming sector in the district. Environmental considerations also play a part, expressed most frequently in terms of maintaining the health of the natural veld and coping with drought, but for most farmers the conservation of biodiversity is a means to an end, not an end in itself. At the same time, game farming emerges from this study as no more or less complicit in unsustainable farming practices than livestock farming: it depends on how it is practised. In a context of social-ecological change it could thus contribute not only to more sustainable land management but also local economic development in this arid environment, if appropriately regulated as part of a larger suite of more effectively supported land and agrarian reform projects.

With regard to small-scale farmers' views on game farming, their entry into commercial farming is severely hampered by lack of access to critical resources that include land, financial assistance, extension support and production skills. In this context game farming is seen as beyond what they can envisage or aspire to in the Ubuntu Local Municipality. Any commitment to sustainable agriculture in the municipality (and the Northern Cape more generally) has to prioritise their needs: for land and extension and financial support. There could, however, be more opportunities for emerging farmers in game farming, with appropriate support.

At the same time, the current environmental challenges are making it difficult for farmers at all scales to remain productive. A further conclusion from my study thus concerns the need for rethinking established livelihood strategies and considering afresh the potential of new forms of agricultural land use such as game farming (properly managed) to contribute to sustainable

agriculture and biodiversity conservation and to co-exist with other developments that are taking off in the Karoo, including renewable energy projects and astronomy. Though game farming in the way that it is currently practised is clearly racially exclusive, capital intensive and elitist, it is generating new economic opportunities in the municipality; a reconfigured game farming sector and its associated off-farm activities could, potentially, be harnessed to a broader programme of local economic development as one part of a more diversified, sustainable development strategy in a time of significant social-ecological change.

References

- ABSA. 2003. *Game Ranch Profitability in Southern Africa*. Johannesburg.
- ABSA. 2013. *The trend towards game ranching in southern Africa*. [Online], Available: <http://www.investorcampus.com/Courses/GameRanchEconomics/IntroductiontoGameRanching/TheTrendTowardsGameRanchinginSouthernAfrica/1163.pdf>.
- Acocks, J.P.H. 1975. *Veld types of South Africa. Memoirs of the Botanical Survey of South Africa no.40*. 2nd ed. Pretoria: Botanical Research Institute, Department of Agricultural Technical Services.
- Adams, W.M. & Hutton, J. 2007. People, parks and poverty: Political ecology and biodiversity conservation. *Conservation and Society*. 5(2):147–183.
- AFP. 2015. Entrepreneur Mike Gcabo talks game farming. *Sowetan Live*. 4 September.
- AgriFood News Network. 2017. *New Body for Black Wildlife Ranchers Launched*.
- Aliber, M. 2003. *What Went Wrong? A Perspective on the First Five Years of Land Redistribution in South Africa, with Homily for the Next Five*. Vol. 1913.
- Aliber, M. 2015. Unravelling the “willing buyer, willing seller” question. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 145–160.
- Aliber, M., Mabhera, S. & Chikhwanha, T. 2017. *Agrarian Reform and Rural Development: High Level Panel Commissioned Report on Agrarian Reform*. Pretoria.
- Allen, P. 1993. e Social and the Ecological in Sustainable Agriculture. In *Food for the future: Conditions and Contradictions of Sustainability*. Food for t ed. P. Allen, Ed. New York: John Wiley & Sons, INC. 1–16.
- Altieri, M.A. 1992. Agroecological foundations of alternative agriculture in California. *Agriculture, Ecosystems and Environment*. 39(1–2):23–53.
- Ana, M. & Terry, M. 2017. The political ecology of food: Carving ‘spaces of possibility’ in a new research agenda. *Journal of Rural Studies (In press)*. 1–52.
- Andrew, N., Brandt, F., Spierenburg, M., Mkhize, N. & Snijders, D. 2013. Land consolidation and the expansion of game farming in South Africa: Impacts on farm dwellers’ livelihoods and rights to land in the Eastern Cape. In *Africa for sale: Positioning the state, land and society in*

foreign land claims and acquisition. S.J.T.M. Evers, C. Seagle, & F. Krijtenburg, Eds. Leiden: Brill. 97–130.

Angelou, M. 2009. *I Know Why the Caged Bird Sing*. New York: Random House Trade Paperbacks.

Anseeuw, W. & Mathebula, N. 2008. Evaluating land reform's contribution to South Africa's pro-poor growth pattern. In *South Africa's economic miracle - has the emperor lost his cloths?* Johannesburg: Trade and Industrial Policy Strategies. 1–28.

Archer, S. 2000. Technology and Ecology in the Karoo: A Century of Windmills, Wire and Changing Farming Practice. *Journal of Southern African Studies*. 26(4):675–696.

Atkinson, D. 2007a. People-centred environmental management and municipal commonage in the Nama Karoo. *Development Southern Africa*. 24(5):707–724.

Atkinson, D. 2007b. *Going for Broke: The fate of farmworkers in arid South Africa*. Pretoria: HSRC Press.

Atkinson, D. 2013. Municipal commonage in South Africa: A critique of artificial dichotomies in policy debates on agriculture. *African Journal of Range & Forage Science*. 30(1–2):29–34.

Atkinson, D. & Büscher, B. 2006a. Municipal commonage and implications for land reform: A profile of commonage users in Philippolis, free state, South Africa. *Agrekon*. 45(4):437–466.

Atkinson, D. & Büscher, B. 2006b. Municipal commonage and implications for land reform: A profile of commonage users in Philippolis, Free State, South Africa. *Agrekon*. 45(4):437–466.

Atkinson, D. & Ingle, M. 2018. By their own bootstraps: municipal commonage farmers as an emerging agrarian class in the Karoo. *African Journal of Range and Forage Science*. 35(3–4):233–243.

Bansal, P. 2002. The corporate challenges of sustainable development. *Academy of Management Executive*. 16(2):122–132.

Bardwell, L. V. 1991. Problem-Framing: A perspective on environmental problem-solving. *Environmental Management*. 15(5):603–612.

Barendse, J., Roux, D., Currie, B., Wilson, N. & Fabricius, C. 2016. A broader view of stewardship to achieve conservation and sustainability goals in South Africa. *South African*

Journal of Science. 112(5–6):1–15.

Beinart, W. 2003. *The rise of conservation in South Africa*. Oxford: Oxford University Press.

Beinart, W. 2018a. An overview of themes in the agrarian and environmental history of the Karoo since c.1800. *African Journal of Range and Forage Science*. 35(3–4):191–202.

Beinart, W. 2018b. Bringing rationality to SA’s land reform debate. *BIZNEWS*. 6 March. [Online], Available: <https://www.biznews.com/thought-leaders/2018/03/06/sa-land-reform-debate>.

Beinart, W. & Delius, P. 2015. The Native Land’s Act of 1913: A Template but not a Turning Point. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 24–39.

Bernstein, H. 2010. *Class Dynamics of Agrarian Change: Agrarian Change and Peasant Studies*. Halifax and Winnipeg: Fernwood Publishing.

Bernstein, H. 2015. Commercial Farming and Agribusiness in South Africa Since 1994. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. C. Cousins, Ben; Walker, Ed. Auckland Park: Jacana Media (Pty) Ltd.

Berzborn, S. 2007. Identity politics in the Richtersveld Land Claim. In *Aridity, Change and Conflict in Africa*. M. Bollig, O. Bubenzer, R. Vogelsang, & WotzkaHans-Peter, Eds. Köln: Heinrich-Barth-Institut. 295–310.

Beumer, C. & Martens, P. 2013. IUCN and perspectives on biodiversity conservation in a changing world. *Biodiversity and Conservation*. 22(13–14):3105–3120.

Bezuidenhout, R. 2010. Game Farming: Are conservation principles a risk? *Farmer’s Weekly*. (April).

Bezuidenhout, R. 2013. How to start farming high-value game species. *Farmer’s Weekly*. (July). [Online], Available: <https://www.farmersweekly.co.za/agribusiness/agribusinesses/farming-high-value-game-species/>.

Bhorat, H., Kanbur, R. & Mayet, N. 2011. *Minimum Wage Enforcement in South Africa*. (11/143). Cape Town.

Bitzer, V. & Bijman, J. 2014. Old Oranges in New Boxes? Strategic Partnerships between Emerging Farmers and Agribusinesses in South Africa. *Journal of Southern African Studies*.

40(1):167–183.

Blaikie, P. 1985. *The Political Economy of Soil Erosion in Developing Countries*. Harlow: Longman.

Blaikie, P. & Brookfield, H. 1987. *Land degradation and society*. London: Methuen.

Borchardt, S.. 2016. What are we SEA-ing? An exploration of the communication strategies and extent of public participation at the Strategic Environmental Assessment (SEA) public briefings for Shale Gas Development in the Karoo. Unpublished Honours Research Project. Stellenbosch: University of Stellenbosch.

Boshoff, W.H. & Fourie, J. 2010. The significance of the Cape trade route to economic activity in the Cape colony: A medium-term business cycle analysis. *European Review of Economic History*. 1–35.

Botes, J., Van Westhuizen, M. Der & Alpaslan, N. 2014. Informing employee assistance programmes for farm workers: An exploration of the social circumstances and needs of farm workers in the Koup. *Social Work (South Africa)*. 50(1):38–58.

Bothma, J. du P. 2002. *Game Ranch Management*. 4th ed. Pretoria: Van Schaik.

Bothma, J. du P. 2005. It is time to end the debate on introducing exotic wildlife. *African Journal of Wildlife Research*. 35(1):97–102.

Bothma, J. du P., Suich, H. & Spenceley, A. 2009. Extensive Wildlife Production on Private Land in South Africa. In *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*.

Bothma, J. du P., Von Bach Sartorius, H.. & Cloete, P.. 2016. Economics of the Wildlife industry in Southern Africa. In *Game Ranch Management*. Sixth ed. J. Bothma, J. du P.; du Toit, Ed. Pretoria: Van Schaik. 85–93.

Bowen, G.A. 2009. Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*. 9(2):27–40.

Brand, U. 2012. Green Economy: The Next Oxymoron? *GAIA - Ecological Perspectives for Science and Society*. 21(1):5.

Brandt, F. 2013. Tracking an invisible great trek: An ethnography on the re-configuration of power and belonging on trophy-hunting farms in the Karoo. Unpublished doctoral dissertation.

Amsterdam: University of Amsterdam.

Brandt, F. & Spierenburg, M. 2014. Game fences in the Karoo: reconfiguring spatial and social relations. *Journal of Contemporary African Studies*. 32(2):220–237.

Breytenbach, W. 2017. *Hunting golden wildebeest, black impala and other colour variants*. [Online], Available: <http://www.wynandwildlife.co.za/Hunting-colour-variants-South-Africa/index.html#prettyPhoto> [2018, March 14].

Brockington, D., Duffy, R. & Igoe, J. 2008. *Nature Unbound. Conservation, Capitalism and the Future of protected Areas*. London: Earthscan.

Brooks, S. & Kjelstrup, L. 2014. An anatomy of dispossession: Post-apartheid land rights and farm dweller relocation in the context of a private game reserve initiative, Northern KwaZulu-Natal. *Environmental Science*. 32(2):238–257.

Brooks, S., Spierenburg, M., Van Brakel, L., Kolk, A. & Lukhozi, K.B. 2011. Creating a commodified wilderness: Tourism, private game farming, and “third nature” landscapes in KwaZulu-Natal. *Tijdschrift voor Economische en Sociale Geografie*. 102(3):260–274.

Bryant, R.L. & Bailey, S. 1997. *Third world political ecology*. London: Routledge.

Burke, B.J. & Shear, B. 2014. Introduction: engaged scholarship for non-capitalist political ecologies. *Journal of Political Ecology*. 21:127–144.

Büscher, B. 2009. Letters of Gold: Enabling Primitive Accumulation through Neoliberal Conservation. *Human Geography*. 2(3):91–93.

Büscher, B. & Fletcher, R. 2015. Accumulation by Conservation. *New Political Economy*. 20(2):273–298.

Butler, M.J., Teaschner, A.P., Ballard, W.B. & Mcgee, B.K. 2005. Commentary : Wildlife arguments , issues , and. *Wildlife Society Bulletin*. 33(1):381–389.

Cadman, M. 2009. *Lions In Captivity And Lion Hunting In South Africa - An Update*. Johannesburg.

Cahoone, L. 2009. Hunting as a moral good. *Environmental Values*. 18(1):67–89.

Carruthers, J. 2008. “Wilding the farm or farming the wild?” The evolution of scientific game ranching in South Africa from the 1960s to the present. *Transactions of the Royal Society of South Africa*. 63(October):160–181.

- Carter, N. 2007. *The politics of the Environment: Ideas, Activism, Policy*. Vol. 39. New Jersey: Cambridge University Press.
- Cavaye, A.L.. 1996. Case study research: a multi-faceted research approach for IS. *Info Systems Journal*. 6:227–242.
- Child, B. 1988. The Role of Wildlife Utilization in the Sustainable Economic Development of the Semi-Arid Rangelands of Zimbabwe. Unpublished doctoral dissertation. Oxford: Oxford University.
- Child, B.A., Musengezi, J., Parent, G.D. & Child, G.F.T. 2012. The economics and institutional economics of wildlife on private land in Africa. *Pastoralism*. 2(1):1–32.
- Chiswick, C.U. 2009. The economic determinants of ethnic assimilation. *Journal of Population Economics*. 22(4):859–880.
- Chmielewski, J., Kuzstal, P. & Zeber-Dzikowska, I. 2018. Anthropogenic Impact on the Environment (Case Study). *Ochrona Srodowiska i Zasobow Naturalnych*. 29(1):30–37.
- Cloete, F. 2017a. Did the bubble in the game farm industry burst? *Wildlife Stud Services: Wildlife Breeders Journal*. 14–15. [Online], Available: <http://www.ws2.co.za/wildlife-breeders-journal-2017/>.
- Cloete, F. 2017b. *Absa Agricultural Outlook 2017*. Johannesburg: North West University.
- Cloete, P.C., Taljaard, P.R. & Grové, B. 2007. A comparative economic case study of switching from cattle farming to game ranching in the Northern Cape Province. *South African Journal of Wildlife Research*. 37(1):71–78.
- Cockburn, J.J. 2018. Stewardship and Colloboration in Multifunctional Landscapes: A Transdisciplinary Enquiry. Unpublushed doctoral dissertation. Grahamstown: Rhodes University.
- Coleman, M. 2012. Interviews. In *Research Methods in Educational Leadership and Management*. A.R.. Briggs, M. Coleman, & M. Morrison, Eds. London: Sage Publications. 250–265.
- Collins, K., Bragg, C., Birss, C. & Child, M.F. 2016. *Bunolagus monticularis* – Riverine Rabbit. In *The Red List Mammals of South Africa, Swaziland and Lesotho*. M.F. Child, L. Roxburgh, E. Do Linh San, D. Raimondo, & H.. Davies-Mostert, Eds. South Africa: South

- African National Biodiversity Institute and Endangered Wildlife Trust. 1–8.
- Conradie, B. 2019. Designing Successful Land Reform For The Extensive Grazing Sector. *South African Journal of Agricultural Extension (SAJAE)*. 47(2):1–12.
- Conradie, B. & Piesse, J. 2016. Ranking perceived risk to farmers: How important is the environment? *African Journal of Agricultural and Resource Economics*. 11(4):263–276.
- Conradie, B., Piesse, J., Vink, N. & Winter, K. 2002. Explaining declining agricultural total factor productivity in the Karoo districts of the Western Cape , 1952 to 2002. *Agrekon*. 1853(April 2013):1–23.
- Cousins, B. 2016. *Land reform in South Africa is sinking. Can it be saved?* Cape Town. University of Western Cape: PLAAS.
- Cousins, B. 2018a. Land debate is clouded by misrepresentation and lack of data. *Times Live*. 10 March. [Online], Available: <https://www.timeslive.co.za/news/south-africa/2018-03-10-land-debate-is-clouded-by-misrepresentation-and-lack-of-data/>.
- Cousins, B. 2018b. *Small-scale farmers should be at the centre of land reform in South Africa*. [Online], Available: <https://theconversation.com/small-scale-farmers-should-be-at-the-centre-of-land-reform-in-south-africa-94546> [2018, November 14].
- Cousins, B. & Chikazunga, D. 2013. *Defining smallholder farmers in South Africa*. University of Western Cape: PLAAS.
- Cousins, B., Hall, R. & Dubb, A. 2014. *The Restitution of Land Rights Amendment Act of 2014: What are the real implications of reopening land claims*. Cape Town: University of Western Cape: PLAAS.
- Cousins, J.A., Sadler, J.P., Evans, J., Goldblatt, A., Laughlin, B.O., Bernstein, H., Cousins, B.E.N., Peters, P.E., et al. 2003. Evaluating land use options at the wildlife/livestock interface: An integrated spatial land use analysis. *World Development*. 30(2):1–15.
- Cousins, J.A., Sadler, J.P. & Evans, J. 2008. Exploring the role of private wildlife ranching as a conservation tool in South Africa: Stakeholder perspectives. *Ecology and Society*. 13(2).
- Cousins, J.A., Sadler, J.P. & Evans, J. 2010. The challenge of regulating private wildlife ranches for conservation in South Africa. *Ecology and Society*. 15(2):23.
- Creswell, J.W. 2014. *Research Design: Qualitative, Quantitative and Mixed Methods*. 4th ed.

- Thousand Oaks, California: Sage Publications.
- Creswell, J.. & Plano Clark, V.. 2007. *Designing and Conducting Mixed Methods Research*. Thousand Oaks, California: Sage Publications.
- Cronwright-Schreiner, S.C. 1925. *The trekbokke (migratory springbucks); and the trek of 1896*. Adelphi Terrace: T. Fisher Unwin.
- Crowley, K. 2015. Case for the R6bn hunting industry, inflator of SA game price bubble. *BIZNEWS* (Cape Town). 22 June. [Online], Available: <https://www.biznews.com/undictated/2015/06/22/without-r6bn-hunting-industry-sa-game-bubble-to-burst-heres-their-case/>.
- Cumming, G.S., Allen, C.R., Ban, N.C., Biggs, D., Biggs, H.C., M, D.H. & Vos, D. 2015. Understanding protected area resilience: A multi- scale, social-ecological approach. *Ecological Applications*. 25(2):299–319.
- Curtis, M. 2015. *Fostering Economic Resilience: The financial benefits of ecological farming in Kenya and Malawi*. Johannesburg: Greenpeace Africa.
- D’Errico, F., Backwell, L., Villa, P., Degano, I., Lucejko, J., Bamford, M., Higham, T., Colombini, M., et al. (in press). Early evidence of San material culture represented by organic artefacts from Boarder Cave, South Africa. *Proceedings of the National Academy of Sciences of the United States of America*. 109:13214*13219.
- DAFF. 2016. *Absract of Agricultural Statistics 2016*. Pretoria.
- Daily, G. 1997. *Nature’s Series: Societal Dependence on Natural Ecosystems*. Washington D.C: Island Press.
- Dalerum, F., Miranda, M., Muñoz, C. & Rodríguez, P. 2018. Effects of scarcity, aesthetics and ecology on wildlife auction prices of large African mammals. *Ambio*. 47(1):78–85.
- Davenport, N.A., Shackleton, C.M. & Gambiza, J. 2012. The direct use value of municipal commonage goods and services to urban households in the Eastern Cape, South Africa. *Land Use Policy*. 29:548–557.
- Davies, J. 1993. Squeezing apartheid. *Bulletin of Atomic Scientists*. (November):1–5.
- Dean, W.R.J., Hoffman, M.T., Meadows, M.E. & Milton, S.J. 1995. Desertification in the semi-arid Karoo, South Africa: Review and reassessment. *Journal of Arid Environments*.

30(3):247–264.

Dean, W.R.J., Seymour, C.L. & Joseph, G.S. 2018. Linear structures in the Karoo, South Africa, and their impacts on biota. *African Journal of Range and Forage Science*. 35(3–4):223–232.

Debertin, D.L. & Pagoulatos, A. 2015. *Production Practices and Systems in Sustainable Agriculture*. (488). Kentucky.

Demmer, W. 2013. Fair Chase. *Boone and Crockett Club: Fair Chase Fall*. (September 2013):1–7.

Department of Agriculture Forestry and Fisheries. 2017. *Trends in the Agricultural Sector*. Pretoria: Department of Agriculture Forestry and Fisheries.

Department of Environment and Nature Conservation. 2017. *Department of Environment and Nature Conservation Annual Report 2017/ 2018 Vote 13*. Kimberly.

Department of Environmental Affairs. 2015. *Climate Change Adaptation Plans for South African biomes*. J.R., Kharika, N., Mkhize, T. Munyai, V.P. Khavhagali, C. Davis, D. Dziba, R. Scholes, E.A. Van Garderen, G. von Maltitz, D.C. Le Maitre, S. Archibald, D. Lotter, V. Deventer, G. Midgely, & T. Hoffman, Eds. Pretoria: Department of Environmental Affairs.

Department of Land Affairs. 1997. *White Paper on South African Land Policy April 1997*. Pretoria: Department of Land Affairs.

Department of Rural Development and Land Reform. n.d. *the Commonage Program*. Johannesburg. [Online], Available: http://www.ruraldevelopment.gov.za/phocadownload/Land_Acquisition_Warehouse/the_commonage_program_section_one.pdf.

Driver, A., Sink, K.J., Nel, J.L., Holness, S., van Niekerk, L., Daniels, F., Jonas, Z., Majiedt, P.A., et al. 2015. *National Biodiversity Assessment 2011: An assessment of South Africa's biodiversity and ecosystems*. Pretoria.

Dry, G.C. 2010. Commercial Wildlife Ranching'S Contribution To the Green Economy. In *Green Economy Summit*. Johannesburg: South African Wildlife Management Association. 1689–1699.

Duffus, D.A. & Dearden, P. 1990. Non-Consumptive Wildlife-Oriented Recreation: A

- Conceptual Framework. *Biological Conservation*. 53:213–231.
- Eckard, M. 2015. *Pixley Ka Seme District Municipality Intergrated Developent Plan. 2015/2016 Review*. De Aar: Pixley Ka Seme District.
- Edet, S.I., Samuel, N.E. & Etim, A.E. 2014. Impact of Overpopulation on the Biological Diversity Conservation in Boki Local Government Area of Cross River State, Nigeria. *American Journal of Environmental Engineering*. 4(5):94–98.
- Ellis, W. 2010. The ≠Khomani San Land Claim against the Kalahari Gemsbok National Park: Requiring and Acquiring Authenticity. In *Land, Memory, Reconstruction, and Justice: Perspectives on Land Claims in South Africa*. C. Walker, A. Bohlin, R. Hall, & T. Kepe, Eds. Athens: Ohio University Press.
- Elphick, R. 1972. The meaning, origin and use of the terms Khoikhoi, San and Khoisan. *Historical Society of Cape Town*. 2(2/3).
- Elphick, R. 1985. *Khoikhoi and the founding of white South Africa*. Johannesburg: Ravan Press.
- Endangered Wildlife Trust. n.d. *The Red Data Book of Mammals of South Africa: A Conservation Assessment*. Johannesburg.
- Escobar, A. 1998. Whose Knowledge, Whose nature? Biodiversity, Conservation, and the Political Ecology of Social Movements. *Journal of Political Ecology*. 5:53–82.
- Evans, N.J. & Ilbery, B.W. 1992. Farm-based accommodation and the restructuring of agriculture: Evidence from three English counties. *Journal of Rural Studies*. 8(1):85–96.
- Farooq, M.B. 2015. Qualitative telephone interviews: Strategies for success. In *18th Annual Waikato Management School Student Research Conference*. Hamilton: University of Waikato. 1–30.
- Finney, S.C. & Edwards, L.E. 2016. The “Anthropocene” epoch: Scientific decision or political statement? *GSA Today*. 26(3–4):4–10.
- Fourie, J. & Green, E. 2015. the Missing People: Accounting for the Productivity of Indigenous Populations in Cape Colonial History. *Journal of African History*. 56(2):195–215.
- Franklin, J., Serra-Diaz, J.M., Syphard, A.D. & Regan, H.M. 2016. Global change and terrestrial plant community dynamics. *Proceedings of the National Academy of Sciences*. 113(14):3725–3734.

- Fraser, A. 2007. Land reform in South Africa and the colonial present. *Social & Cultural Geography*. 8(6):37–41.
- Galaty, J.G. & Bonte, P. 1991. Introduction. In *Herders, Warriors and Traders: Pastoralism in Africa*. J.G. Galaty & P. Bonte, Eds. Oxford: Westview Press. 3–30.
- Gastrow, M. & Oppelt, T. 2019. The Square Kilometre Array and Local Development Mandates in the Karoo The Square Kilometre Array and Local Development Mandates in the Karoo. *Journal of Southern African Studies*. 45(4):711–728.
- Genis, A. 2012. *The changing nature of large-scale commercial farming & implications for agrarian reform: Evidence from Limpopo, Western Cape and Northern Cape*. (Working Paper No: 24). PLAAS: University of Western Cape.
- Genis, A.J. 2015. Accumulation and differentiation: the dynamics of change in the large-scale commercial farming sector of South Africa. University of Western Cape.
- Giliome, H. & Mbenga, B. 2007. *New History of South Africa*. Cape Town: Tafelberg.
- Gliessman, S. 2015. *Agroecology: The Ecology of Sustainable Food Systems*. London: CRC Press.
- Goldblatt, A. 2011. *Agriculture: Facts and Trends South Africa*. Pretoria. [Online], Available: http://awsassets.wwf.org.za/downloads/facts_brochure_mockup_04_b.pdf.
- Gomiero, T. 2016. Soil degradation, land scarcity and food security: Reviewing a complex challenge. *Sustainability (Switzerland)*. 8(3):1–41.
- Gonzalo-Castr, F., Kellison, J., Boyd, S. & Kopak, A. 2010. A Methodology for Conducting Integrative Mixed Methods Research and Data Analysis. *Journal of Mixed Methods Research*. 4(4):342–360.
- Goodrich, A. 2015. *Biltong hunting as a performance of belonging in post-apartheid South Africa*. New York: Lexington Books.
- Government Communications (GCIS). n.d. *South Africa Year Book*. Pretoria: Government Communication and Information System (GCIS).
- La Grange, M., du Toit, J.. & van Rooyen, J. 2016. Active capture methods. In *Game Ranch Management*. J. du P. Bothma & J.G. Du Toit, Eds. Pretoria: Van Schaik. 532–596.
- Graupner, E.D. 2017. A game rancher’s perspective: A case for colour variants. *Wildlife*

Ranching. 1(2):154–161.

Greenbank, P. 2003. The Role of Values in Educational Research: The case for reflexivity. *British Educational Research Journal*. 29(6):791–801.

Grinstein-Weiss, M., Zhan, M. & Sherradan, M. 2004. Saving Performance in Individual Development Accounts: Does Marital Status Matter? *Journal of Marriage and Family*. 68(February 2006):192–204.

Groenwald, G. 2012. “More comfort, better prosperity, and greater advantage”: Free burghers, alcohol retail and the VOC authorities at the Cape of Good Hope, 1652-1680. *Historia*. 57(1):01–21.

Grossi, G., Goglio, P., Vitali, A. & Williams, A.G. 2019. Livestock and climate change: Impact of livestock on climate and mitigation strategies. *Animal Frontiers*. 9(1):69–76.

Grossman, L.S. 1999. American Geographical Society Review Reviewed Work(s): Third World Political Ecology by Raymond L. Bryant and Sinead Bailey. *Geographical Review*. 89(1):151–153.

Hall, R. 2009. Dynamics in the Commercial Farming Sector. In *Another Countryside? Policy Options for Land and Agrarian Reform in South Africa*. 120–131.

Hall, R. 2015. Who, what, where, how, why The many disagreements about land redistribution in South Africa. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 127–144.

Hall, T.J. 2011. The tripple bottomline: What is it? And how does it work? *Indiana Business Review*. 86(1):4–8.

Hall, R. & Kepe, T. 2017. Elite capture and state neglect: New evidence on South Africa’s land reform. *Review of African Political Economy*. 44(151):122–130.

Hamer, N., Kingwill, R. & Timmermans, H. 2003. *Social Resource Document for Members of the Indalo Eastern Cape Private Nature Reserve Association*. Rhodes: ISER.

Harvey, D. 1993. *The nature of environment: The dialectics of social and environmental change*. Socialist ed. L. Miliband, R; Panitch, Ed. Oxford: Blackwell.

Haywood, M. 2007. Re-wilding or hyperwildness - plus ca change? *South African Journal of Art History*. 22(2):195–203.

- Helliker, K. 2013. *Reproducing white commercial agriculture in South Africa*. Grahamstown: Rhodes University.
- Hendricks, F., Ntsebeza, L. & Helliker, K. 2013. *The Promise of Land: Undoing a Century of Dispossession in South Africa*. F. Hendricks, L. Ntsebeza, & K. Helliker, Eds. Johannesburg: Jacana Media.
- Henschel, J.R., Hoffman, M.T. & Walker, C. 2018. Introduction to the Karoo Special Issue: Trajectories of Change in the Anthropocene. *African Journal of Range and Forage Science*. 35(3–4):151–156.
- Hill, T. & Nel, E. 2018. Population change in the Karoo. *African Journal of Range and Forage Science*. 35(3–4):203–208.
- HLPE. 2017. *Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition*. Rome.
- Hockly, H.E. 1957. *The Story of the British Settlers of 1820 in South Africa*. Second Enl ed. Cape Town/ Johannesburg: Juta & Co., Limited.
- Hoffman, M.T. 2014. Changing patterns of rural land use and land cover in South Africa and their implications for Land Reform. *Journal of Southern African Studies*. 40(4):707–725.
- Hoffman, M.T. 2015. Environmental Change in Twentieth Century South Africa and its implications for Land Reform. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. C. Cousins, Ben; Walker, Ed. Johannesburg: Jacana Media (Pty) Ltd. 56–67.
- Hoffman, M.T. & Todd, S. 2000. A national review of land degradation in South Africa: The influence of biophysical and socioeconomic factors. *Journal of Southern African Studies*. 26:743–758.
- Hoffman, M.T., Walker, C. & Henschel, J.R. 2018. Reflections on the Karoo Special Issue: Towards an interdisciplinary research agenda for South Africa’s drylands §. *African Journal of Range and Forage Science*. 35(3–4):387–393.
- Hogan, M.C. 2015. *Nama Karoo*. Washington, DC: World Wildlife Fund. [Online], Available: <https://www.worldwildlife.org/ecoregions/at1314> [2018, April 29].
- Holden, E., Linnerud, K., Banister, D., Schwanitz, V. J., Wierling, A. 2018. The Imperatives

- of Sustainable Development: Needs, Justice, Limits. 1(September):263.
- Holden, E., Linnerud, K. & Banister, D. 2016. The Imperatives of Sustainable Development. *Sustainable Development*. (I).
- Holden, E., Linnerud, K. & Banister, D. 2017. The Imperatives of Sustainable Development. *Sustainable Development*. 25(3):213–226.
- Holmes, A.G. 2014. Researcher Positionality - A Consideration of Its Influence and Place in Research. *Research Gate*. 28.
- Holness, S., Driver, A., Todd, S., Snaddon, K., Hamer, M., Raimondo, D., Daniels, F., Alexander, G., et al. 2016. *Biodiversity and Ecological Impacts : Landscape Processes, Ecosystems and Species*. Pretoria: CSIR.
- Hooper, D.U., Chapin, F.S., Ewell, J.J., Hector, A., Inchausti, P., Lavorel, S., Lawton, J.H., Lodge, D.M., et al. 2005. ESA Report. *Ecological Society of America*. 75(1):3–35.
- van Hoving, S.C.P. 2011. An evaluation of different extensive wildlife production systems in the Western Cape Province of South Africa. University of Stellenbosch.
- Hughes, D.J. 2014. *Environmental Problems of the Greeks and Romans: Ecology in the Ancient Mediterranean*. 2nd ed. Maryland: Johns Hopkins University Press.
- Hyvärinen, O. 2018. Long-term vegetation change before and after converting from livestock farming to game ranching in Asante Sana Game Reserve , South Africa. University of Capetown.
- Isaacs, J. 1996. *A Profile of Resource-Poor Farmers and Research Opportunities to Address their Needs*.
- Janovsky, E. 2016. Wildlife industry expected to continue to grow. *Wildlife Stud Services: Wildlife Breeders Journal*. 12–14.
- Jaramillo, F. & Destouni, G. 2015. Comment on “Planetary boundaries: Guiding human development on a changing planet”. *Science*. 348(6240):1217–c.
- Jimerson, R.C. 2008. Archives for all: The importance of archives in society. *Arquivo & Administracao*. 7(2):11–26.
- Jones, B.T.B. & Murphree, M.W. 2004. Community based-natural resource management as a conservation mechanism. Lessons and Directives. In *Parks in Transition: Biodiversity, Rural*

Development and the Bottom Line. B. Child, Ed. London.: Earthscan.

de Jong, J. 2016. Guidelines for Best Practice in Cross-Cultural Surveys. In *Data Collection*. A. Arbor, Ed. Michigan: MI: Survey Research Center, Institute of Social Research. 1–11.

Jordaan, A.J. 2012. Drought Risk Reduction in the Northern Cape, South Africa. University of the Free State.

Jordaan, A., Sakulski, D. & Jordaan, A.. 2013. Interdisciplinary Drought Risk Assessment for Agriculture : *South African Journal of Agricultural Extension*. 41:44–58.

Josling, C. 2017. Breeding goals to meet the game industry. *Wildlife Breeders Journal*. 1. [Online], Available: <http://www.ws2.co.za/breeding-goals-to-meet-the-game-industry/>.

Kamuti, T. 2015a. A Critique of the Green Economy Approach in the Wildlife Ranching Sector in South Africa. *Africa Geographic*. 45(1):146–168.

Kamuti, T. 2015b. A Critique of the Green Economy Approach in the Wildlife Ranching Sector in South Africa. *Africa Insight*. 45(1):146–168.

Kamuti, T. 2016. Private Wildlife Governance in a Context of Radical Uncertainty: Dynamics of Game Farming Policy and Practice in KwaZulu-Natal, South Africa. University of the Free State.

Kamuti, T. 2017. The changing geography of wildlife conservation: Perspectives on private game farming in contemporary KwaZulu-Natal Province, South Africa. *New Contree*. 79:39–64.

Kamuti, T. 2019. “If it pays, it stays”: The lobby for private wildlife ranching in South Africa. In *Nature Conservation in Southern Africa. Morality and Marginality: Towards Sentient Conservation*. J.-B. Gewald, M. Spierenburg, & H. Wels, Eds. Leiden: Brill. 189–2013.

Kapekele, E.M. 2006. Determinants of slash and burn: The case of chitemene farming system in Zambia by South Africa. University of Pretoria.

Kepe, T. 2009. Shaped by race: Why “race” still matters in the challenges facing biodiversity conservation in Africa. *Local Environment*. 14(9):871–878.

Khan, F. 2000. Environmentalism in South Africa: A Sociopolitical Perspective. *Macalester International*. 9:156–181.

Khan, M.T. 2013. Theoretical frameworks in political ecology and participatory nature/forest

conservation: The necessity for a heterodox approach and the critical moment. *Journal of Political Ecology*. 20(1):460.

Khapayi, M. & Celliers, P.R. 2016. Factors limiting and preventing emerging farmers to progress to commercial farming in the King William's town area of the Eastern Cape Province, South Africa. *Journal of Agricultural Extension*. 44(1):25–41.

Kirsten, J. & Van Zyl, J. 1998. Defining small-scale farmers in the South African context. *Agrekon*. 37(4):551–562.

Klarin, T. 2018. The Concept of Sustainable Development: From its Beginning to the Contemporary Issues. *Zagreb International Review of Economics and Business*. 21(1):67–94.

Kloppers, H. & Pienaar, G. 2014. The Historical Context of Land Reform in South Africa and Early Policies. *Per / Pelj*. 17(2):678–707.

Koen, J. 2014. Game Farming and The Law. In *Game Farm and Hunting Tourism*. First ed. L. van der Merwe, Peet & du Plessis, Ed. Stellenbosch: Sun Media Metro. 251–289.

Kopnina, H. 2017. Commodification of natural resources and forest ecosystem services: Examining implications for forest protection. *Environmental Conservation*. 44(1):24–33.

Kraaij, T. & Milton, S.J. 2006. Vegetation changes (1995-2004) in semi-arid Karoo shrubland, South Africa: Effects of rainfall, wild herbivores and change in land use. *Journal of Arid Environments*. 64(1):174–192.

Kriek, J. 2017. Practical management aspects of wildlife ranching. *Annual Game Breeders Journal*. (1):42–45.

Kusimba, S.B. 2005. What Is a Hunter-Gatherer? Variation in the Archaeological Record of Eastern and Southern Africa. *Journal of Archaeological Research*. 13(4):337–366.

Lacey, A. & Luff, D. 2007. *Qualitative Data Analysis. The NIHR RDS for Yorkshire & the Humber*. Yorkshire: The NIHR RDS for the East Midlands.

Lahiff, E. & Li, G. 2012. *Land Redistribution in South Africa: A Critical Review*. Washington DC.

Langholz, J.A. & Kerley, G.I.H. 2006. Combining conservation and development on private lands: an assessment of ecotourism-based private game reserves in the Eastern Cape. *Centre for African Conservation Ecology (formerly TERU) Report*. (56):1–34.

- Laswell, H.D. 1950. *Politics; who gets what, when, how*. New York: McGraw-Hill book company, inc.
- Laurent, E. 2015. *Social-Ecology: Exploring the missing link in sustainable development*. (2015–07). Stanford.
- Legassick, M. 1972. The Frontier Tradition in South African Historiography. *Collected Seminar Papers on the Societies of Southern Africa in the 19th and 20th centuries*. 2:1–33.
- Leighton, F.A. 2002. Health risk assessment of the translocation of wild animals. *Revue scientifique et technique (International Office of Epizootics)*. 21(1):187–195.
- Lemke, S. & van Rensburg, F.J. 2014. Remaining at the margins: Case study of farmworkers in the North West Province, South Africa. *Development Southern Africa*. 31(6):843–858.
- Lewis, J. 2003. Design Issues. In *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. J. Ritchie & J. Lewis, Eds. Thousand Oaks, California: Sage Publications. 47–76.
- Lindsey, P.A., Romañach, S.S. & Davies-Mostert, H.T. 2009. The importance of conservancies for enhancing the value of game ranch land for large mammal conservation in southern Africa. *Journal of Zoology*. 277(2):99–105.
- Lindsey, P.A., Barnes, J., Nyirenda, V., Pumfrett, B., Tambling, C.J., Taylor, W.A. & Rolfes, M.T.S. 2013. The Zambian wildlife ranching industry: Scale, associated benefits, and limitations affecting its development. *PLoS ONE*. 8(12).
- Lindsey, P.A., Havemann, C.P., Lines, R.M., Price, A.E., Retief, T.A., Rhebergen, T., Van Der Waal, C. & Romañach, S.S. 2013. Benefits of wildlife-based land uses on private lands in Namibia and limitations affecting their development. *Oryx*. 47(1):41–53.
- List, M. & Ritteberger, V. 1992. Regime theory and international environmental management. In *The International Politics of the Environment*. New York: Oxford University Press. 85–109.
- Lovegrove, B. 1993. *The living deserts of Southern Africa*. Cape Town: Fernwood Press.
- Luck, K. 2005. Farm workers and land tenure reform: The case of game farming in Hope Fountain in the Eastern Cape. *Social Dynamics: A journal of African studies*. 31(1):84–103.
- Lukhozi, K.B. 2008. Farm dwellers' sense of place in the context of game farming: A case study of KusaKusa Private Game Reserve, KwaZulu-Natal. Unpublished honours thesis.

Urban: University of KwaZulu-Natal.

Mack, N., Woodsong, C., Macqueen, K.M., Guest, G. & Namey, E. 2005. *Qualitative research methods: A data collector's field guide*. North Carolina: Family Health International. [Online], Available: www.fhi360.org.

Maclacrtly, R. 2014. The great hunting debate. *Fairlady*. (April):2014.

Mahlangu, I. 2012. *Moguls lock horns in record sale*. [Online], Available: <https://www.timeslive.co.za/news/south-africa/2012-04-15-moguls-lock-horns-in-record-sale/> [2019-September-01] [2019, September 01].

Mansfield, B. 2007. Privatization: Property and the remaking of nature society Relations. Introduction to the Special Issue. *Antipode*. 39:393–405.

Marais, R. 2017. Game farming industry booming despite trials. *Herald Live* (Port Elizabeth). 26 February. [Online], Available: <http://www.heraldlive.co.za/news/2017/02/26/game-farming-industry-booming-despite-trials/>.

Marks, S. 1972. Khoisan Resistance to the Dutch in the Seventeenth and Eighteenth Centuries. *Journal of African History*. 13(1):55–80.

Mashego, P. & Speckman, A. 2019. Farmers thirst for drop of hope. *Sunday Times* (Cape Town). 6 October. [Online], Available: <https://www.timeslive.co.za/sunday-times/business/2019-10-06-farmers-thirst-for-drop-of-hope/>.

Mason, J. 2003. *Sustainable Agriculture*. Collingwood: Landlinks Press.

Masunda, F. 2014. Assessing the impact of sustainable farming techniques on smallholder farm enterprises in Zimbabwe. Stellenbosch University.

Maswana, J. V. 2017. *Rural Development Plan 2000–2006*. Kimberly. [Online], Available: http://app.spisys.gov.za/files/pula/topics/3037832/Public_Documents/Northern_Cape/Rural_Development_Plans/Pixley_Ka_Seme/file_942966617.pdf.

Mathers, N., Fox, N. & Hunn, A. 2007. *Surveys and Questionnaires Authors*. Nottingham: Yockshire and the Humber.

Mathevet, R., Peluso, N.L., Couespel, A. & Robbins, P. 2015. Using historical political ecology to understand the present: Water, reeds, and biodiversity in the camargue biosphere reserve, Southern France. *Ecology and Society*. 20(4):1–17.

- Matondi, P.B. 2012. *Zimbabwe's Fast Track Land Reform*. London/ New York: Zed Book.
- McCracken, D.P. 2008. *Saving the Zululand wilderness: An early struggle for nature conservation*. Johannesburg: Jacana Media (Pty) Ltd.
- McDonald, J. 2015. Like a wildbeast, he can be got for the catching: Child forced labour and the “taming” of the San along the Cape’s North Eastern Frontier. In *Genocide on the frontiers: when hunter-gatherers and commercial stock farmers clash*. M. Adhikari, Ed. New York: Berghahn. 33–60.
- McKenna, A. 2011. *The History of Southern Africa*. First Edit ed. A. McKenna, Ed. New York: Britannica Educational Publishing.
- Mckenzie, P. 2016. Reclaiming the land: A case study of Riemvasmaak. In *From defense to development: redirecting military resources in South Africa*. J. Cock & Mckenzie, Eds. Cape Town: David Phillip Publishers (Pty) Ltd. 60–84.
- McMillan, J.H. & Schumacher, S. 2001. *Research in Education. A Conceptual Introduction*. 5th ed ed. New York: Longman.
- Meadows, M.E. 2003. John Acocks and the expanding Karoo hypothesis. *South African Journal of Botany*. 69(1):62–67.
- Merriam, S.. 1998. *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- van der Merwe, P, du P.L. 2014. *Game Farm and Hunting Tourism*. du P.L. van der Merwe, P, Ed. Stellenbosch: Sun Media Metro.
- van der Merwe, P. 2014a. Practical Guidelines for Hunting. In *Game Farm and Hunting Tourism*. First ed. du P.L. van der Merwe, P, Ed. Stellenbosch: Sun Media Metro. 105–183.
- van der Merwe, P. 2014b. Introduction to Game Farm Tourism. In *Game Farm and Hunting Tourism*. First ed. P. du P.L. van der Merwe, Ed. Stellenbosch: Sun Press. 4–7.
- van der Merwe, P.J. & Beck, R.. 1995. *The migrant farmer in the history of the Cape Colony, 1657-1842*. Athens: Ohio University Press.
- Van der Merwe, P. & Saayman, M. 2013. Who are the South African hunters and why do they hunt? *Journal of Hospitality and Management Tourism*. 4(1):9–18.
- Meyer, C.B. 2001. A Case in Case Study Methodology. *Field Methods*. 13(4):329–352.

- Michler, I. 2016. Is canned lion hunting a sustainability scam? *IOL*. 3 October. [Online], Available: <https://www.iol.co.za/capetimes/business/is-canned-lion-hunting-a-sustainability-scam-2075372>.
- Milton, S.J; Dean, W.R.J;Richardson, D.. 2003. Economic Incentives for Restoring Natural Capital in Southern African Rangelands. *Frontiers in Ecology and the Environment*. 1(5):153–160.
- Milton, S.J. & Dean, W.R.J. 2015. Repairing compound damage in arid ecosystems – challenges and controversies. *Transactions of the Royal Society of South Africa*. 70(2):127–133.
- Mkhize, N. 2014. Game farm conversions and the land question: unpacking present contradictions and historical continuities in farm dwellers’ tenure insecurity in Cradock. *Journal of Contemporary African Studies*. 32(February 2015):207–219.
- Mkhize, N.N. 2012. Private Game Farms and the Tenure Security of Farm Workers and Dwellers in Cradock – Implications for Tenure Reform in South Africa. (November).
- Mkhize, N.N. 2019. *The making of the white Karoo*. [Online], Available: <http://www.thejournalist.org.za/spotlight/the-making-of-the-white-karoo> [2019, July 17].
- Morris, D. 2018. Before the Anthropocene: Human pasts in Karoo landscapes. *African Journal of Range and Forage Science*. 35(3–4):179–190.
- Mosco, V. 2009. What is political economy? definitions and characteristics. In *The Political Economy of Communication*. 2nd ed. ed. D. Ricardo, W. Jevons, & A. Marshall, Eds. London: Sage Publications. 21–36.
- Moyo, S. 2000. *Land Reform under Structural Adjustments in Zimbabwe: Land Use Change in the Mashonaland Province*. Upsala: Nordic Africa Institute.
- Mucina, L., Rutherford, M.C., Palmer, A.R., Milton, S.J., Scott, L., Lloyd, J.W., van der Merwe, B., Hoare, D.B., et al. 2006. Nama-Karoo Biome. In *The vegetation of South Africa, Lesotho and Swaziland*. L. Mucina & M.C. Rutherford, Eds. Pretoria: South Africa Research and Biodiversity Institute. 325–347.
- Musvoto, C., Nahman, A., Nortje, K., Wet, B. De & Mahumani, B. 2014. *Agriculture and the Green Economy in South Africa: A CSIR Analysis*. Pretoria: Council for Scientific and Industrial Research.

- Mutia, T.M. 2009. *Biodiversity Conservation*. Naivasha: Geothermal Development Company Limited.
- Mwakiwa, E., Hearne, J.W., Stigter, J.D., De Boer, W.F., Henley, M., Slotow, R., Van Langevelde, F., Peel, M., et al. 2016. Optimization of net returns from wildlife consumptive and non-consumptive uses by game reserve management. *Environmental Conservation*. 43(2):128–139.
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., Fonseca, G.A.B. & Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature*. 403(February):853–858.
- NAMC. 2006. *Report on the investigation to identify problems for sustainable growth and development in South African wildlife ranching*. Pretoria: NAMC.
- Naoum, S.G. 1998. *Dissertation research and writing for construction students*. Oxford: Butterworth-Heinemann.
- Nattrass, N. & Conradie, B. 2015. Jackal narratives: Predator control and contested ecologies in the Karoo, South Africa. *Journal of Southern African Studies*. 41(4):1–19.
- Nel, E.J. 2013. “Economic value of wildlife: captive/ semi-intensive selective breeding” [PowerPoint presentation]. *Biodiversity Economy Indaba*. [Online], Available: https://www.environment.gov.za/sites/default/files/docs/economics_intensive_breeding.pdf [2018, March 21].
- Nel, E. & Hill, T. 2008. Marginalisation and demographic change in the semi-arid Karoo, South Africa. *Journal of Arid Environments*. 72(12):2264–2274.
- Nel, E., Taylor, B., Hill, T. & Atkinson, D. 2011. Demographic and Economic Changes in Small Towns in South Africa’s Karoo: Looking from the Inside Out. *Urban Forum*. 22(4):395–410.
- Ngubane, M. & Brooks, S. 2013. Land beneficiaries as game farmers: conservation, land reform and the invention of the ‘community game farm’ in KwaZulu-Natal. *Journal of Contemporary African Studies*. 31(3):399–420.
- Ngulube, P. 2015. Qualitative data analysis and interpretation: Systematic search for meaning. In *Addressing research challenges: Making headway for developing researchers*. E.R. Mathipa & M.T. Gumbo, Eds. Noordwyk: Mosala-MASEDI Publishers & Booksellers cc. 131–156.

- Nkondze, M.S., Masuku, M.B. & Manyatsi, A. 2014. The Impact of Climate Change on Livestock Production in Swaziland : The case of Mpolonjeni Area Development Programme. *Journal of Agricultural Studies*. 2(1):1–15.
- Noble, J. 1875. *Descriptive handbook of the Cape Colony: Its condition and resources*. Cape Town: J.C.JUTA.
- Ntsebeza, Lungisile; Hall, R. 2007. *The Land Question in South Africa: The Challenge of Redistribution and Transformation*. R. Ntsebeza, Lungisile; Hall, Ed. Cape Town: HSRC Press.
- Nygren, A. & Rikoon, S. 2008. Political ecology revisited: Integration of politics and ecology does matter. *Society and Natural Resources*. 21(9):767–782.
- O'Connor, T.G. 2018. Sustainable Pastoralism in the Karoo: Space and Time Limits. In *Karoo Futures Workshop on Envisioning Land Reform in South Africa's Drylands*. STIAS, Stellenbosch 26-27 November. C. Walker, Ed. Stellenbosch. 8–11.
- O'Connor, T.G. & Roux, P.W. 1995. Vegetation changes (1949-71) in a semi arid, grassy dwarf shrublands in the Karoo, South Africa: Influence of rain variability and grazing by sheep. *Journal of Applied Ecology*. 32:612–628.
- Oberem, P. 2015. *Wildlife Ranching in South Africa*. [Online], Available: <https://africageographic.com/blog/wildlife-ranching-in-south-africa/> [2018, March 12].
- Oberem, P. & Oberem, P. 2016. *The New Game Rancher*. First ed. Queenswood: Briza Publications.
- Okunlola, A., Ngubane, M., Cousins, B. & du Toit, A. 2016. Challenging the stereotypes: Small-scale black farmers and private sector support programmes in South Africa. A national scan. *PLAAS Research Report 53*. (53).
- Oldenbroek, K. & van der Waaj, L. 2014. *Textbook Animal Breeding and Genetics*. Wageningen: Animal Breeding and Genomics Centre (ABGC).
- Oliver, E. & Oliver, W.H. 2017. The Colonisation of South Africa: A unique case. *HTS Teologiese Studies / Theological Studies*. 73(3):24–26.
- Otieno, O. a. 2016. Climate change and wildlife utilization on private land: Evidence from wildlife ranching in South Africa. University of Cape Town.

Otieno, J. & Muchapondwa, E. 2016. *Agriculture and adaptation to climate change: The Role of wildlife ranching in South Africa*. (ERSA working paper 579).

Peet, R. & Watts, M. 1996. [Online], Available: <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Liberation+Ecology#4%5Cnhttp://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Liberation+Ecology+-+Development,+Sustainability,+and+environment+in+an+age+of+market+triumphalism#5>.

Peet, R., Robbins, P. & Watts, M. 2011. *Global Political Ecology*. New York: Routledge.

Penn, N. 2005. *The forgotten frontier: Colonist and Khoisan on the Cape's frontier in the 18th Century*. Cape Town: Double Storey Books.

Penn, N.G. 1995. *The Northern Cape Frontier Zone, 1700-c.1815*. University of Cape Town.

Pickhartz. 2014. *Why high fence hunting is unethical*. [Online], Available: <http://www.wideopenspaces.com/high-fence-hunting-unethical/> [2018, March 19].

Pinsof, J. & Sanhaji, Z. 2009. *Ecotourism South Africa*. New York. [Online], Available: [https://courses.cit.cornell.edu/crp384/2009reports/Pinsof&Sanahaji_Ecotourism in South africa.pdf](https://courses.cit.cornell.edu/crp384/2009reports/Pinsof&Sanahaji_Ecotourism%20in%20South%20africa.pdf).

Platzky, L. & Walker, C. 1985. *The surplus people: Forced removals in South Africa*. Johannesburg: Ravan Press.

du Plessis, N.. 1998. *The Tygerberg. The story of the Tygerberg Hills and the Towns of Parrow, Bellville and Durbanville*. Cape Town: Tafelberg.

du Plessis, L., van der Merwe, P. & Saayman, M. 2014a. Game farm planning from a tourism perspective. In *Game Farm and Hunting Tourism*. First ed. P. van der Merwe & L. du Plessis, Eds. Stellenbosch: Sun Media Metro. 27–71.

du Plessis, L., van der Merwe, P. & Saayman, M. 2014b. Game Management. In *Game Farm and Hunting Tourism*. First ed. du P.L. van der Merwe. P, Ed. Stellenbosch: Sun Media Metro. 188–231.

Pool-Stanvliet, R., Duffell-Canham, A., Pence, G. & Smart, R. 2017. *Western Cape Biodiversity Spatial Plan Handbook*. Stellenbosch: Cape Nature.

Presidential Advisory Panel on Land Reform and Agriculture. 2019. *Final Report of the Presidential Advisory Panel on Land Reform and agriculture*. Pretoria.

- Raftopolous, B. & Mlambo, A. 2009. *Becoming Zimbabwe: A history from the pre-colonial period to 2008*. Harare: Weaver Press.
- Ramsay, K. 2016. Wildlife ranching/ farming sector in South Africa: the current and potential role of legislation administered by the Department of Agriculture, Forestry and Fisheries. *Wildlife Stud Services: Wildlife Breeders Journal*. 138–143.
- Ramutsindela, M., Davis, N. & Sinthumele, I. 2016. *Diagnostic Report on Land Reform in South Africa: Land Restitution*. Pretoria: Parliament of South Africa.
- Rasmussen, M.B. & Lund, C. 2018. *Frontier Spaces: Territorialization and Resource Control*. Copenhagen: Copenhagen Centre for Development Research: Copenhagen Centre for Development Research.
- Redclift, M. 2005. An Oxymoron Comes of Age. *Sustainable Development*. 13(4):212–227.
- Riaz, N. 2016. *Positionality and my PhD*. [Online], Available: ocialtheoryapplied.com/2016/04/15/positionality-and-my-phd/ [2019-February-16] [2019, February 16].
- Robbins, P. 2012a. *Political Ecology: Critical Introductions to Geography*. 2nd ed. New Jersey: John Wiley & Sons, Ltd.
- Robbins, P. 2012b. *Political Ecology: Critical Introductions to Geography*. 2nd ed. Oxford: John Wiley & Sons, Ltd.
- Robertson, P.G. 2015. A Sustainable Agriculture? *Dædalus, the Journal of the American Academy of Arts & Sciences*. 144(4):76–89.
- Robertson, G.P. & Harwood, R.R. 2013. Agriculture, Sustainable. *Encyclopedia of Biodiversity: Second Edition*. 1:111–118.
- Robinson, J. 2004. Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics*. 48(4):369–384.
- Roche, C.J. 2004. “Ornaments of the Desert” Springbok Treks in the Cape Colony, 1774-1908. University of Cape Town.
- Rohde, R., Hoffman, M.T. & Allsopp, N. 2003. *Hanging on a wire: A historical and socio-economic study of Paulshoek village in the communal area of Leliefontein, Namaqualand*. Vol. 10. Cape Town: Programme for Land and Agrarian Studies, University of the Western Cape.

- Rojas-downing, M.M., Nejadhashemi, A.P., Harrigan, T. & Woznicki, S.A. 2017. Climate Risk Management Climate change and livestock : Impacts , adaptation , and mitigation. *Climate Risk Management*. 16:145–163.
- Rosenthal, E. 1959. *One Hundred Years of Victoria West: 1859-1959*. Victoria West: Municipality of Victoria West Cape Province.
- Ross, R.J. 1986.
- Ross, R.J. 2010. Khoesan and Immigrants: The emergence of colonial society in the Cape, 1500-1800. In *The Cambridge history of South Africa: from the early times to 1885 volume 1*. C. Hamilton, K. Mbenga, & R.. Ross, Eds. Cambridge: Cambridge University Press. 168–210.
- le Roux, A. & Pfitzer, S. 2016. Farming with mini antelope. *Wildlife Stud Services: Wildlife Breeders Journal*. 21–31.
- Rugege, S. 2004. Land Reform in South Africa: An Overview. *International Journal of Legal Info*. 283(32):1–28.
- Rutherford, M.C., Mucina, L. & Powrie, L.W. 2006. Biomes and bioregions of Southern Africa. In *The vegetation of South Africa, Lesotho and Swaziland*. L. Mucina & M.C. Rutherford, Eds. Pretoria: South African National Biodiversity Institute. 30–51.
- Saayman, M. 2014. The non-consumptive value of selected marine species at Table Mountain National Park: An exploration study. *South African Journal of Economic and Management Sciences*. 17(2):184–193.
- Saayman, M., van der Merwe, P. & Rossouw, R. 2011. The economic impact of hunting in the Northern Cape Province. *South African Journal of Wildlife Research*. 41(1):120–133.
- Sachs, J.D. 2012. From millennium development goals to sustainable development goals. *The Lancet*. 379(9832):2206–2211.
- SANBI. 2016. *Lexicon of Biodiversity Planning in South Africa. Beta Version, June 2016*. Pretoria: South African National Biodiversity Institute.
- Sayre, N.F., Carlisle, L., Huntsinger, L., Fisher, G. & Shattuck, A. 2012. The role of rangelands in diversified farming systems: Innovations, obstacles, and opportunities in the USA. *Ecology and Society*. 17(4).
- Schlebusch, C.M., Prins, F., Lombard, M., Jakobsson, M. & Soodyall, H. 2016. The

disappearing San of southeastern Africa and their genetic affinities. *Human Genetics*. 135(12):1365–1373.

Schmitz, O.J. 2009. Reports Reports. *Ecological Society of America*. 90(9):2339–2345.

Schumann, B., Matthew, E. & Theron, C. 2016. *Monitoring for the presence/absence of Riverine Rabbits and the collection of data of other wildlife present on the Square Kilometer Array (SKA) site in the Karoo*. Pretoria: Council for Scientific and Industrial Research.

Scoones, I., Marongwe, N., Mavedzenge, B., Mahenehene, J., Murimbarimba, F. & Sukume, C. 2010. *Zimbabwe's Land Reform: Myths and Realities*. Harare: James Currey.

Scruton, R. 2002. Ethics and welfare: The case of hunting. *Philosophy*. 77(302):543–564.

Secretariat of the Convention on Biological Diversity. 2005. *Handbook on the Convention for Biological Diversity Including its Cartagena Protocol on Biosafety*. 3rd ed. Montreal: United Nations.

Selous, F.C. 1908. *African Nature Notes & Reminiscences*. London: McMillan & Co Ltd.

Senyolo, G.M. 2007. Factors distinguishing low turnover emerging farmers from high turnover emerging farmers in south africa. University of Limpopo.

Shackleton, S.E. & Shackleton, C.M. 2015. Not just farming: Natural resources and livelihoods in land and agrarian reform. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 191–205.

Shuy, R.W. 2003. In person versus telephone interviewing. In *Inside Interviewing: New Lenses, New Concerns*. Thousand Oaks, California: Sage Publications. 175–193.

Sikwela, M. & Mushunje, A. 2013. of farmer support programmes on household income and sustainability in smallholder production: A case study of the Eastern Cape and KwaZulu Natal farmers. *African Journal of Agricultural Research*. 8(21):2502–2511.

Sims-Castley, R., Kerley, G.I.H., Geach, B. & Langholz, J. 2005. Socio-economic significance of ecotourism-based private game reserves in South Africa's Eastern Cape Province. *Parks*. 15(2):6–18.

Sinyolo, S. 2016. The impact of social grants on rural households incentives to farm, market participation and farm entrepreneurship: Evidence from Kwazulu-Natal, South Africa.

University of Kwazulu-Natal.

van Sittert, L. 2002. Holding the line: The rural enclosure movement in the Cape. *Journal of African History*. 43:95–118.

van Sittert, L. 2005. Bringing in the wild: The commodification of wild animals in the Cape colony/ provincec. 1850–1950. *The Journal of African History*. 46(2):269–291.

Siulemba, G.K. & Moodley, V. 2014. A gendered analysis of sustainable agricultural practices with changing climate in the Chankumba agricultural community, Zambia. *Agenda: Empowering women for gender equity*. 28(3):135–146.

Skinner, J.D. 1993. Springbok (*Antidorcas marsupialis*) treks. *Transactions of the Royal Society of South Africa*. 48:291–305.

Skinner, J.D. & Louw, G.N. 1996. The Springbok: *Antidorcas* (Zimmerman, 1780). *Transvaal Museum Monograph*. 10:1–50.

Smith, A.B. 1992. *Pastoralism in Africa*. Johannesburg: Witswaterstrand University Press.

Smith, A.B. 2014. The Archaeology of the Khoekhoen. In *Papers from the Pre-Colonial Catalytic Project Volume 1*. C. Ntsebeza, Lungisile; Saunders, Ed. Cape Town: Centre for African Studies. 22–34.

Smith, N. & Wilson, S.L. 2002. *Changing land use trends in the Thicket Biome: Pastoralism to game farming*. Port Elizabeth.

Smith, P., Ashmore, M.R., Black, H.I.J., Burgess, P.J., Evans, C.D., Quine, T.A., Thomson, A.M., Hicks, K., et al. 2013. REVIEW: The role of ecosystems and their management in regulating climate, and soil, water and air quality. *Journal of Applied Ecology*. 50(4):812–829.

Smuts, T.N. 2012. An archaeological perspective on the nineteenth century development of land, landscape and sheep farming in the Karoo. University of Cape Town.

Sneddon, C., Howarth, R.B. & Norgaard, R.B. 2006. Sustainable development in a post-Brundtland world. *Ecological Economics*. 57(2):253–268.

Snijders, D. 2012. Wild property and its boundaries-on wildlife policy and rural consequences in South Africa. *Journal of Peasant Studies*. 39(2):503–520.

Snijders, D. 2014. Wildlife policy matters: Inclusion and exclusion by means of organisational and discursive boundaries. *Journal of Contemporary African Studies*. 32(2):173–189.

- Snijders, D. 2015. Shifting species in South Africa: Wildlife policy, rural consequences. 286.
- Snyman, M.. 2014. *South African sheep breeds: Dorper*. (2014/017). Middelburg: Grootfontein Agricultural Institution. [Online], Available: [http://gadi.agric.za/InfoPacks/2014017 South African Sheep breeds - Dorper.pdf](http://gadi.agric.za/InfoPacks/2014017%20South%20African%20Sheep%20breeds%20-%20Dorper.pdf).
- South African Government. 1991. Game Theft Act No 105 1991. *Government Gazette*. (13352):1–6.
- Spierenburg, M. & Brooks, S. 2014. Private game farming and its social consequences in post-apartheid South Africa: contestations over wildlife, property and agrarian futures. *Journal of Contemporary African Studies*. 32(2):151–172.
- Spoorex News. 2017a. *Colour variants the rise and fall*.
- Spoorex News. 2017b. *Top 20 Brands in South African Wildlife*.
- Statistics and Economic Analysis Directorate. 2018. *Economic Review of the South African Agriculture 2014/2015*. Pretoria.
- Statistics South Africa. 2014. *Quarterly Labour Force Survey: Quarter 1(January to March) 2014*. Pretoria: Statistics South Africa. [Online], Available: <http://beta2.statssa.gov.za/?p=2652>.
- Statistics South Africa. 2016. *Community Survey 2016 Agricultural households*. Pretoria: Statistics South Africa.
- Steyn, L. 2012. Big bucks for game ranchers. *Mail & Guardian* (Johannesburg). 6 January. [Online], Available: <https://mg.co.za/article/2012-01-06-big-bucks-for-game-ranchers>.
- Stoddard, J.E., Pollard, C.E. & Evans, M.. 2012. The tripple bottomline: A framework for sustainable tourism development. *International Journal of Hospitality and Tourism Administration*. 13(3):233–258.
- Swemmer, A.M., Bond, W.J., Donaldson, J., Hempson, G.P., Malherbe, J. & Smit, I.P.J. 2018. The ecology of drought – a workshop report. *South African Journal of Science*. 114(9/10):9–11.
- Taylor, A., Lindsey, P. & Davies-Mostert, H. 2016. *Its Potential To Support the Green Economy in South Africa an Assessment of the Economic , Social and Conservation Value of the Wildlife Ranching Industry and Its Potential To Support the Green Economy in South Africa*

Authors : an Assessment of the Econom. Johannesburg.

Thomas, S. 2017. *Hunting: The colour game is over.* [Online], Available: <https://www.businesslive.co.za/fm/features/2017-01-26-colour-game-is-over/> [2018, March 12].

du Toit, E.A. 2000. Certification standards for sustainable game ranching in the Northern Province, South Africa. University of Stellenbosch.

du Toit, J., van Rooyen, J. & van Rooyen, N. 2016. Wildlife ranch acquisition and cattle ranch transformation. In *Game Ranch Management*. Sixth Edit ed. J. du P. Bothma & J. du Toit, Eds. Pretoria: Van Schaik. 53–55.

du Toit, J.C.O., O’Connor, T.G. & Van den Berg, L. 2015. Photographic evidence of fire-induced shifts from dwarf-shrub- to grass-dominated vegetation in Nama-Karoo. *South African Journal of Botany*. 101:148–152.

Du Toit, J.G. 2007. *Report: Role of the private sector in the Wildlife Industry.* Tshwane.

Tullo, E., Finzi, A. & Guarino, M. 2019. Review: Environmental impact of livestock farming and Precision Livestock Farming as a mitigation strategy. *Science of the Total Environment*. 650:2751–2760.

UN Environment. 2019. *Global Environmental Outlook-GEO-6: Healthy Planet, Healthy People.* Cambridge: Cambridge University Press.

UNESCO. 2016. *World Social Science Report 2016-Challenging Inequalities: Pathways to a just World.* Paris.

United Nations. 1992. *Report of the United Nations Conference on Environment and Development.* In *Rio Declaration on Environment and Development.* Rio De Janeiro.

United Nations. 2015. *Resolution adopted by the General Assembly on 19 December 2014: Promotion of sustainable tourism, including ecotourism, for poverty eradication and environment protection.*

United Nations Environment Programme. 2011. *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, A Synthesis for Policy Makers.*

de Villiers, C.A; Esler, K.J; Knight, A.. 2014. Social processes promoting the adaptive capacity of rangeland managers to achieve resilience in the Karoo, South Africa. *Journal of*

Environmental Management. 146:276–283.

Vink, N., van Rooyen, J., Karaan, M. & Rooyen, J. van. 1998. Farmer support programmes: lessons from implementation. “*Strategies to overcome poverty and inequality: towards Carnegie III*” Conference, University of Cape Town, 4 September. 1–19.

Vollgraaf, R. & Crowley, K. 2015. Kudu bull auctioned for record R9.4 million. *fin24* (Johannesburg). 24 September. [Online], Available: <https://www.fin24.com/Companies/Agribusiness/Kudu-bull-auctioned-for-record-R94m-20150914>.

Walker, C. 2005a. The Limits to Land Reform: Rethinking ‘The Land Question’. *Journal of Southern African Studies*. 31(4):805–824.

Walker, C. 2008a. Land claims, land conservation and the public interest in protected areas. *South African Review of Sociology*. 39(2):232–244.

Walker, C. 2008b. *Land Marked: Land Claims and Land Restitution in South Africa*. Johannesburg: Jacana Media (Pty) Ltd.

Walker, C. 2015. Sketch Map To The Future: Restitution Unbound. In *Land Divided Land Restored Land Reform in South Africa for the 21st Century*. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 232–249.

Walker, C. 2019a. Cosmopolitan Karoo: Land, Space and Place in the Shadow of the Square Kilometre Array. *Journal of Southern African Studies*. 1–22.

Walker, C. 2019b. Overview of Land Reform in the Karoo/ Northern Cape. In *Cosmopolitan Karoo: Karoo Futures Workshop on Envisioning Land Reform in South Africa’s Drylands*. STIAS, Stellenbosch 26-27 November. Stellenbosch. 23.

Walker, P. 1998. Politics of nature: An overview of political ecology. *Capitalism Nature Socialism*. 9(1):131–144.

Walker, P.A. 2005b. Political ecology: where is the ecology. *Progress in Human Geography*. 29(1):73–82.

Walker, C. & Chinigò, D. 2018. Disassembling the Square Kilometre Array: Astronomy and development in South Africa. *Third World Quarterly*. 1–19.

Walker, C. & Cousins, B. 2015. Land Divided, Land Restored: Introduction. In *Land Divided*

Land Restored Land Reform in South Africa for the 21st Century. B. Cousins & C. Walker, Eds. Johannesburg: Jacana Media (Pty) Ltd. 23.

Walker, C., Milton, S.J., O'Connor, T.G., Maguire, J.M. & Dean, W.R.J. 2018a. Drivers and trajectories of social and ecological change in the Karoo, South Africa. *African Journal of Range and Forage Science*. 35(3–4):157–177.

Walker, C., Milton, S.J., O'Connor, T.G., Maguire, J.M. & Dean, W.R.J. 2018b. Drivers and trajectories of social and ecological change in the Karoo, South Africa. *African Journal of Range and Forage Science*. 35(3–4):157–177.

Watts, M. 2000. Political Ecology. In *A Companion to Economic Geography*. E. Sheppard & T.J. Barnes, Eds. Oxford: Blackwell Publishing. 257–274.

Wegerif, M., Russell, B. & Grundling, I. 2005. *Still Searching for Security: The Reality of Farm Dwellers Evictions in South Africa*. Johannesburg: Nkunzi Development Association and Social Surveys.

Welz, A. 2017. *Fenced in: Does South Africa's private wildlife ranching industry hold the key to saving world species and natural habitats*. [Online], Available: <http://edge.ensia.com/fenced-in/> [2018, April 06].

Wisborg, P. 2006. "It is our land": Human rights and land tenure reform in Namaqualand, South Africa. PhD Thesis 2006:4. Norwegian University of Life Sciences.

Wolf, E. 1972. Ownership and Political Ecology. *Anthropological Quarterly*. 45(3):201.

Wood, C. 2016. *Provincial Review 2016: Northern Cape*. Pretoria: TIPS.

Woodbridge, M. 2015. The Sustainable Development Goals (SDGs), the centerpiece of the 2030 Agenda for Sustainable Development, were adopted by the United Nations Sustainable Development Summit in September 2015. *Urban Issues*. (01):1–4.

World Commission on Environment and Development. 1987. *Our Common Future*. Oxford: Oxford University Press.

WWF-SA. 2015. *The resilient landscapes approach: Facilitating social learning across sectors and scales to create shared value*. Cape Town.

Xaba, M.B. & Roodt, M.J. 2016. South Africa's land reform efforts lack a focus on struggling farmers. *Mail & Guardian*. 6 December. [Online], Available: <https://mg.co.za/article/2016-12->

06-south-africas-land-reform-efforts-lack-a-focus-on-struggling-farmers.

Yao, C.W. & Vital, L.M. 2018. Reflexivity in International Contexts: Implications for US Doctoral Students International Research Preparation. *International Journal of Doctoral Studies*. 13:193–210.

Yeld, J. 1997. *Caring for the earth South Africa: A guide to sustainable living*. Cape Town: WWFSA.

Yin, R.K. 2003. *Case Study Research: Design and Methods*. 3rd ed. Thousand Oaks, London: Sage Publications.

Yin, R.K. 2006. *Case Study Research: Design and Methods*. Vol. 5. London: Sage Publications.

Yin, R.K. 2013. Validity and generalization in future case study evaluations. *Evaluation*. 19(3):321–332.

Zhang, W., Brandt, M., Tong, X., Tian, Q. & Fensholt, R. 2018. Impacts of the seasonal distribution of rainfall on vegetation productivity across the Sahel. *Biogeosciences*. 15(1):319–330.

Ziervogel, G., New, M., Van Gardeen, E.A., Midgely, G., Taylor, A. & Hamman, R. 2014. Climate change report impacts and adaptation in South Africa. *WIREs Climate Change*. 5:605–620.

Zulu, N. 2015. An analysis of the post 1980s transition from pastoral to game farming in South Africa: a case study of the Marico district. University of Witswaterstrand.

Zungu, V.M. 2017. The socio-economic implications of conversion from commercial agriculture to private game farming. University of Cape Town.

Interviews

1) Key Informants (Pseudonyms)

Name/ Organisation	Place
Pioneering game farmer 1. Kennedy	Kimberley
DRDLR 2. Tshepo 3. George	Kimberley Victoria West
DAFF 4. Lwazi 5. Vicky 6. Lloyd	Kimberley Victoria West Victoria West
Department of Environment and Nature Conservation 7. Patrick (Biodiversity Officer)	Kimberley
Ubuntu Local Municipality 8. Municipality Manager 9. Ray	Victoria West Victoria West
Farmers Associations 10. Frances 11. Pieter 12. Jacob	Victoria West Victoria West Loxton
Religious Minister 13. Name Local Law Firm 14. Name	Victoria West Victoria West
SANBI 15. Elvis	Kimberley
WRSA 16. Doug	Kimberley
Agrisa 17. Name	Kimberley

Academic	
18. Professor Timm Hoffman	Stellenbosch
Farm worker rights NGO	
19. Lizzy	Stellenbosch

2) Commercial farmers (pseudonyms)

Name	Place
Livestock farmers	
1. Ruan	Loxton
2. Lizzy	Victoria West
3. Neill	Loxton
4. Hendrick	Richmond
5. Howard	Victoria West
6. Luke	Richmond
7. Simeon	Richmond
8. Jan	Victoria West
9. Manus	Loxton
10. Nico	Loxton
11. Diedrick	Loxton
12. Nataniel	Victoria West
13. Dieter	Victoria West
14. Verner	Hutchinson
15. Rickus	Richmond
16. Johannes	Loxton
17. Louw	Hutchinson
Game Farmers	
1. Adam	Victoria West
2. Vim	Hutchinson
3. Gert	Victoria West
4. Daan	Victoria West
5. Christiaan	Richmond
6. Jaco	Loxton

3) Small-scale farmers (pseudonyms)

Backyard farmers	
Majola	Victoria West
Duma	Victoria West
Michael	Victoria West
Xolile	Victoria West
Mardeck farm	
Petrus	Victoria West
Mam'thembu	Victoria West
Commonage farmers	
Mandla	Victoria West
Mmngadi	Victoria West
Bheki	Victoria West
Kgopotso	Victoria West
Khethiwe	Victoria West
Lebohang	Victoria West

Appendices

Appendix 1: Survey questionnaire

SURVEY (OCTOBER 2016)

Farmers perceptions and views on biodiversity conservation, sustainable agriculture and farming in Ubuntu Local Municipality

Please fill in the following as completely and accurately as you possibly can. There are no right or wrong answers expected but your honest opinions on the various issues being researched. This study seeks to understand the motivations behind the shift from livestock to game farming in the semi-arid Great Karoo region within the Nama Karoo biome of the Northern Cape and the extent to which this is rooted in ideas of biodiversity conservation and sustainable agriculture by those encouraging the idea. Through this study I am also interested in exploring the prospects for emerging and small-scale farmers in the game industry and if the trend towards game farming could contribute towards land reform.

You are requested to answer the questions in the spaces provided or to circle a response where applicable.

SECTION ONE: Socio Demographic Variables

1. Are you the Farmer (owner) or Farm manager?

- a. Farmer (owner)
- b. Farm manager
- c. Spouse
- d. Other, specify.....

2. Gender

- a. Male
- b. Female

3. Age

- a. 18-25
- b. 26-35
- c. 36-45
- d. 46-55

- e. 56-65
- f. Above 66

4. Main occupation

- a. Farmer
- b. Farm manager
- c. Other,
specify.....

5. Main source of income

- a. Eco tourism, + B&B
- b. Hunting
- c. Selling of farm products (meat, milk, eggs, hides etc.)
- d. Renting out land
- e. Off farm incomes, specify.....
- f. On farm incomes, specify.....

6. Alternative source of income (Off farm opportunities)

- a. Government subsidies
- b. Remittances
- c. Off farm incomes, specify.....
- d. On farm incomes, specify.....

SECTION TWO: Scale, type and ownership of farm

7. Type of farming enterprise

- a. Livestock commercial farm (cattle, sheep, goat, ostrich, pig etc.)
- b. Game commercial farm (Ecotourism, hunting)
- c. Mixed farming (game and livestock)
- d. Commercial Crop farming
- e. Subsistence farming
- f. Other,
specify.....
.....

8. Do you own this land that you farm on? (In the case of the manager/other), does your employer own this land?

- a. Yes (*if yes skip to question number 11*)
- b. No (*if no proceed to question 9*)

9. If no, who owns the land?

- a. Individual
- b. Local Municipality
- c. Central Government
- d. Private company
- e. State Owned company
- f. Partnership
- g. Foreign company
- h. Trust
- i. Tribal trust
- j. Other,
specify.....
.....

10. If you don't own the land, do you pay rent for its use? (*after this question please skip to question number 13*)

- a. Yes
- b. No

11. How long has this farm been in the family?

- a. 0-5 years
- b. 6-10 years
- c. 10-15 years
- d. 16-20 years
- e. More than 20 years

12. What is the nature of farm ownership? (*after this question skip to question number 15 in Section 3*)

- a. Inherited
- b. Bought

- c. Other,
specify.....
.....

13. How long have you been using this farm?

- a. 0-5 years
- b. 6-10 years
- c. 10-15 years
- d. 16-20 years
- e. More than 20 years

14. How big is this farm? Please specify?

SECTION THREE: Farming system (Sustainable/good farm practices)

15. What factors mostly affect farming in this area? *Circle all applicable*

- a. Environmental (relief, soils, temperature)
- b. Climatic (seasonal low rainfall, droughts, changing weather patterns)
- c. Lack of government regulations and subsidies to farmers
- d. High expenses in farm labour wages
- e. Competition for markets (local and global)
- f. Distance from markets
- g. Availability of labour
- h. Availability of capital
- i. Lack of Technology
- j. Other,
specify.....
.....

16. What farming techniques/ practices do you use on your farm to protect the natural environment for its continued productivity in the future?

.....
.....

17. What can be done to improve farming livelihoods to build a vibrant and strong rural economy?

.....

18. Does game farming contribute to farm practices that protect the natural environment? (*Tick on a single response you most agree with*)

Strongly disagree	Somewhat disagree	Disagree	Agree	Somewhat agree	Strongly agree

19. Is game farming better for the environment than conventional livestock farming (*Tick on a single response you most agree with*)

Strongly disagree	Somewhat disagree	Disagree	Agree	Somewhat agree	Strongly agree

20. Are there any rare species of plants and animals on your farm?

- a. Yes
- b. No (*skip to question number 21.*)
- c.

21. How are you contributing in making sure they are not threatened or become extinct?

.....

.....

22. What is your contribution in ensuring the conservation of all forms of plant and animal life on your farm?

.....

.....

23. Does game farming contribute in safe guarding threatened species of animals and plants? (*Tick on a single response you most agree with*)

Strongly disagree	Somewhat disagree	Disagree	Agree	Somewhat agree	Strongly agree

NB// If you are not a game farmer skip question number 24 and go to Section Four, number 26

24. If you are a game farmer; are there any evident changes on the physical characteristics of your farm that suggest an improvement on the natural environment?

- a. Yes
- b. No
- c. Not yet

- d. Other,
specify.....

25. What do you consider to be the two main major visible changes?

- a.
.....
- b.
.....

SECTION FOUR: Land Use Change

26. What are the motivating factors to the shift to game farming or to practising of mixed farming (game and livestock) by farmers?

- a.
.....
- b.
.....
- c.

27. Would you shift to game farming as an alternative land use change?

- a. Yes
- b. No
- c. Maybe

28. What are the three main benefits of shifting to game farming?

- a.
.....
- b.
.....
- c.
.....

29. What are the main negative things associated with the shift to game farming?

.....
.....

Question 30 is for game farmers, if not game farmer skip to question 31.

30. From your experience in game farming, would you still shift to game farming if you could go back in time?

- a. Yes
- b. No
- c. Not sure

31. Do you consider livestock farming profitable?

- a. Yes
- b. No

32. What are the benefits of livestock farming you have seen in this area?

- a.
.....
- b.
.....
- c.
.....

33. What are the challenges of livestock farming you have seen in this area?

- a.
.....
- b.
.....

Question 34 and 35 to be answered by livestock farmers. If you are a game farmer skip to question 36.

34. Would you remain in livestock farming in the future?

- a. Yes
- b. No
- c. Maybe

35. If not what alternatives would you consider?

- a. Game farming
- b. Selling the farm
- c. Mixed farming (livestock and game or other)

d. Other,
specify.....

36. Are there any tensions/ conflicts between livestock and game farmers in the area?

- a. Yes
- b. No
- c. Don't Know

37. If your answer to Q 36 is yes, could you state the nature of the tensions/ conflicts?

.....
.....

SECTION FIVE: Land Reform

38. What do you understand by land reform in South Africa?

.....
.....

39 a. What should be the focus of land reform?

.....

b. How best should land reform be done?

.....
.....

Appendix 2: Sample questions for commercial farmers interview guide

Farmers understandings and perceptions on sustainable agriculture, biodiversity conservation and game farming in the Ubuntu Municipality, Northern Cape

Introduction

Thank you for agreeing to see me today. My name is Charmaine Manyani and I am a PhD student at Stellenbosch University. I am doing independent research for my doctoral studies. I have no affiliation to any organisation. I would like to understand your views on sustainable agriculture, biodiversity conservation and how game farming is located in these ideas. There are no right or wrong answers so please be open and frank. This discussion will take about one hour thirty minutes and I will record the discussion on a recorder so that I can write up the discussion later. Everything that you say will be treated in confidence and will not be associated with you. There will not be any negative consequences for you or anyone in your community as a result of the information obtained from this study.

Are there any questions that you would like to ask me before we begin?

May we begin?

Place of interview	
Date of Interview	
Interview Number	
Start time	
End time	

Ownership and productivity

- 1) How long have you been farming on this land?
- 2) What is the history of ownership of your farm?
- 3) How big is this farm?
- 4) Do you utilise all the land for farming activities?
- 5) Have you always practiced livestock/ game/ crop farming?
- 6) What is the economic output/ ha on a commercial/ livestock farm?
- 7) What are the characteristics of commercial farming in the context of Ubuntu Local Municipality?

Farming activities and practices

- 1) What do you understand by the term sustainable agriculture?
- 2) Do you practise sustainable agriculture on your farm?
- 3) What constitutes sustainable agriculture on your farm?
- 4) What farming techniques or practices do you use on your farm?
- 5) How long have you been practising sustainable agriculture? Probe (Is there a difference with your former farming practices?)
- 6) What do you understand by biodiversity conservation, would you say you practise biodiversity conservation on your farm? / what is your contribution in ensuring the conservation of all forms of plant and animal life on your farm?
- 7) What are the advantages and disadvantages of practising sustainable agriculture, and biodiversity conservation?

Questions specifically for game farmers

- 1) How do you contextualise game farming as conservation?
- 2) What are the challenges/ risks encountered by farmers when they switch to game farming?
- 3) What are the physical changes that you have observed on your farm after the shift to game farming?
- 4) Are there any tensions or conflicts between livestock and game farmers within the Ubuntu Municipality?

Factors constraining farming in Ubuntu Municipality

- 1) What are the factors affecting your farm productivity?
- 2) How do these factors affect farming in the area in general? (climate, soils etc)
- 3) How are you as a farmer coping considering these challenges?

Game farming

- 1) What is game farming according to your knowledge and experience?
- 2) What have been the trends of the shift to game farming? (probe, when did the shift intensify?)
- 3) What have been the push and pull factors motivating the shift to game farming in this area?
- 4) What are the social consequences of the shift to game farming? probe (who is mostly affected and how?)
- 5) What have been the economic implications of game farming on the economy of the Ubuntu Municipality? Probe, what (if) is the nature of jobs created by game farming?
- 6) Is game farming opening new avenues of rural transformation? Probe (what has been the impact of ecotourism on the Ubuntu Municipality?)
- 7) Is game farming a sustainable livelihood option according to your experience and understanding?
- 8) What have been the benefits of game farming within the community in Ubuntu municipality?
- 9) Has game farming increased the economic activities in the major town of Victoria west?
- 10) Who has access to the game farming industry?
- 11) What are the misconceptions associated with game farming to your knowledge?

- 12) Are there any tensions and conflicts amongst game farmers and the other farmers in the region?

Land reform

- 1) What do you understand by land reform in South Africa?
- 2) What should be the focus of land reform?
- 3) Have there been any land claims or land restitutions in this area?
- 4) What do you think of land reform in this region?
- 5) How best should/ would land reform happen in this area?

Appendix 3: Sample questions for small-scale farmers

GUIDE QUESTIONS FOR SMALL-SCALE FARMERS

General questions

Age, employment, sources of income,

What are the challenges faced by small-scale farmers in the municipality?

Land tenure and size

- 1) How long have you been farming?
- 2) Who owns the land where you are farming?
- 3) How was this farm or land acquired?
- 4) If by redistribution, which programme?
- 5) How many years have you been using the municipal commonage?
- 6) Are you farming on a full-time or part-time basis?

Land use

- 1) Is farming on commonage land sustainable?
- 2) Do you always use the same area to graze your livestock or do you move around the commonage? If you move around, is this on a daily, monthly or yearly basis and which areas do you move to? What are the reasons for these movements?
- 3) Activities exercised on this farm: Production Packaging Processing (e.g. dried fruit, milling) Livestock sales Livestock products (milk, cheese, etc.) Livestock slaughtering Other (specify):
- 4) Do you have access to water? If yes, what are the water sources?
- 5) Do you have access to a dip tank? If yes, which of the following? Communal/public dip tank Private dip tank
- 6) Do you have access to veterinary services or a veterinarian? If yes, which do you use? State veterinary services A private veterinarian
- 7) Have you received any agricultural/ farming training? If yes, from whom/where?
- 8) For what reason(s) do you keep livestock? What do you use the livestock for?
 - a. If selling/ who do you sell to?

ENVIRONMENT HEALTH

- 1) Have you experienced a change in the veld on the commonage over the years? If so, what do you think are the reasons for this change?
- 2) Do you feel that the veld on the commonage is in good or bad condition? Does this apply to all areas or are some areas better/worse than others? If so, which areas are better and which areas are worse?
- 3) What are the indicators of an area in good condition?
- 4) What are the indicators of an area in poor condition?
- 5) Why do you think that the veld is in its present condition?
- 6) What are the environmental problems faced by farmers on commonage land?
- 7) What problems do you experience as a user of the Ubuntu municipal commonage?

MUNICIPAL MANAGEMENT

- 1) How did you gain access to commonage land? Mardeck When?
- 2) Do you pay rent for the use of the commonage land? If yes, how much?
- 3) How does the municipality manage the use of commonage land?
- 4) What kind of infrastructural support do the farmers get from the municipality? What other support do farmers get from the municipality?
- 5) Are there grazing guidelines on the use of the commonage land? Are there grazing capacities?
- 6) How do the farmers access municipal management?
- 7) What is the relationship between the farmers and the municipality?

Land reform and agrarian reform

- 1) What do you understand by the term land reform, land redistribution and land restitution? Have there been any land reform projects in this municipality? Where, who were the beneficiaries?
- 2) As emergent farmers, what opportunities do you see through land reform?

Game farming

- 1) Is there a place for emergent farmers in commercial farming and game farming?
- 2) Do you know what a game farm is?
- 3) What happens on a game farm?
- 4) Have you ever been on a game farm?
- 5) In your view, what are the challenges of gaining entry into the game farming industry?

Appendix 4: Sample questions for key informants

Key informants' understandings and perceptions on sustainable agriculture, biodiversity conservation and game farming in the Ubuntu Municipality, Northern Cape

Introduction

Thank you for agreeing to see me today. My name is Charmaine Manyani and I am a PhD student at Stellenbosch University. I am doing independent research for my doctoral studies. I have no affiliation to any organisation. I would like to understand your views on sustainable agriculture, biodiversity conservation and how game farming is located in these ideas. There are no right or wrong answers so please be open and frank. This discussion will take about one hour thirty minutes and I will record the discussion on a recorder with your consent so that I can write up the discussion later. Everything that you say will be treated in confidence and will not be associated with you. There will not be any negative consequences for you or anyone in your (community/ organisation) as a result of the information obtained from this study.

Are there any questions that you would like to ask me before we begin?

May we begin?

Name of participant (voluntary)	
Position of participant	
Place of interview	
Date of interview	
Start time	
End time	

Motivations of shift to game farming

- 1) What is the history of the shift to game farming in this region?
- 2) Period of the shift to game farming?
- 3) What is the scale of shift to game farming in the Ubuntu Local Municipality?
- 4) Who are the pioneers of the conversion?
- 5) Who are the game farmers? (profiling)
- 6) What variables are behind the shift to game farming? (push and pull factors)

Implications of game farming

- 1) Are there any tensions or conflicts between livestock and game farmers within the Ubuntu Municipality?
- 2) Social consequences of the shift to game farming? who is mostly affected and how
- 3) Economic implications of game farming on the economy of the Ubuntu Municipality?
- 4) Probe, what is the nature of jobs created by game farming?
- 5) Is game farming opening new avenues of rural transformation?
- 6) Probe (what has been the impact of ecotourism on the rural economy?)
- 7) What do you understand by sustainable livelihoods?

- 8) Is game farming a sustainable livelihood option?
- 9) What have been the benefits of game farming within the Ubuntu municipality?
- 10) Has game farming increased the economic activities in the towns of Ubuntu Local Municipality?

Perceptions on game farming

- 1) How is game farming generally viewed by the community in and around Victoria west
- 2) Who mostly benefits from game farming in your own experience and perception?
- 3) What are the controversies associated with game farming as a land use practise?

Sustainability and bio diversity conservation discourses around game farming

- 1) Does game farming in your knowledge and experience contribute to sustainable land practices/ good farming practices that protect the environment?
- 2) Does game farming foster bio diversity conservation/ conservation of all forms of plant and animal life?
- 3) What happens to the physical environment on a farm after the conversion to game farming?

Livestock farmers

- 1) What are the reasons some farmers are remaining in livestock farming?
- 2) Is livestock farming a productive farming practise?
- 3) What are the major challenges that livestock farmers face in production?
- 4) Are there mixed farmers in Ubuntu Local Municipality? (livestock and game)
- 5) What are the challenges and benefits of practicing mixed farming?
- 6) Would livestock farmers shift to game farming if given the opportunity?

Risks and challenges in game farming

- 1) What are the risks and challenges of the shift to farmers venturing into game farming?
- 2) What are the benefits enjoyed by farmers engaging in game farming?
- 3) What are the challenges faced by all farmers in Ubuntu Municipality?

Small-scale/ emerging farmers

How can the race and class bias of game farming be addressed in South Africa?

What are the prospects for small-scale and emerging farmers in the game farming industry?

Probe (Ubuntu local municipality)

What are the realities of farmers on commonage land?

What is the nature of commonage farming in Ubuntu local municipality?

What are the challenges that are common to commonage farmers?

Are there any benefits of being a farmer on commonage land?

Land reform

- 1) What do you understand by land reform in South Africa?
- 2) What are the trends of land reform in the Northern Cape?
- 3) What should be the main focus of land reform?
- 4) How best should land reform in the Northern Cape be done in your opinion?
- 5) Are there any public land claims on any of the commercial farms in the Ubuntu Municipality?
- 6) What are the implications of game farm conversions on land reform policies in the region?

Future of game farming

- 1) What are the impacts of land consolidation in the area?
- 2) Do you think the trend towards the shift to game farming will continue?
- 3) Do you think game farming will reach a saturation point? And what would happen once this point is reached?

Appendix 5: Sample focus group discussion theme guide

Farmers perceptions and views on biodiversity conservation, sustainable agriculture and farming in Ubuntu Municipality

Date and Location _____

FGD Group _____

Introduction:

Good morning/ afternoon. My name is Charmaine Manyani. I am a doctoral student in the Department of Sociology and Social Anthropology, Stellenbosch University, South Africa. I am asking you to participate in a research study that will contribute to my PhD dissertation degree, which seeks to understand the shift from livestock to game farming in the Northern Cape.

There are no right or wrong answers but rather various points of view. Please feel free to share your point of view even if it differs from what others have said. Before we begin, let me remind you to please speak one at a time. This discussion will take about one hour thirty minutes and I will record the discussion on a recorder with your consent so that I can write up the discussion later. Everything that you say will be treated in confidence and will not be associated with you. There will not be any negative consequences for you or anyone in your community as a result of the information obtained from this study. But before I ask the first question, let's find out some more about each other. Please tell me your name and how long you have been farming?

Scale and type of farming

- Types of farming enterprises in the Municipality
- Most common type of farming
- Farming productivity
- On farm incomes
- Alternative farming incomes

Factors constraining farming in Ubuntu Municipality

- Factors constraining farming activities
- Farming productivity
- Farmers coping mechanism

Farming activities and practices

- Common farming practices
- Farmers understanding and meanings attached to sustainable farming practices and biodiversity conservation
- Main activities that happen on the different farm enterprises (game, livestock, commonage farms etc.)
- Characteristics of small-scale farming in the Municipality

Small-scale farmers and game farming

- Knowledge around game farming
- Would farmers consider game farming as a livelihood
- Prospects for small and emerging farmers in game farming
- Farming futures in the Municipality

Land reform

- Meanings of land
- How would land reform affect farmers?
- Focus of land reform

Appendix 6: Research ethics clearance letter



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

Approval Notice

New Application

24-Oct-2016

Manyani, Charmaine CRS

Proposal #: SU-HSD-003438

From Livestock to Game Farming: An exploration of farmers understandings of land use changes, sustainable agriculture and Title: biodiversity conservation in the Ubuntu Local Municipality, Northern Cape, South Africa

Dear Miss Charmaine Manyani,

Your **New Application** received on **27-Sep-2016**, was reviewed

Please note the following information about your approved research proposal:

Proposal Approval Period: **24-Oct-2016 -23-Oct-2019**

General comments:

Consent forms should be made available in relevant languages for the area, probably mainly Afrikaans.

Please take note of the general Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

Please remember to use your proposal number (SU-HSD-003438) on any documents or correspondence with the REC concerning your research proposal.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Also note that a progress report should be submitted to the Committee before the approval period has expired if a continuation is required. The Committee will then consider the continuation of the project for a further year (if necessary).

This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki and the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health). Annually a number of projects may be selected randomly for an external audit.

National Health Research Ethics Committee (NHREC) registration number REC-050411-032.

We wish you the best as you conduct your research.

If you have any questions or need further help, please contact the REC office at .

Included Documents:

REC: Humanities New Application

Sincerely,

Clarissa Graham

REC Coordinator

Research Ethics Committee: Human Research (Humanities)

Appendix 7: English version informed Consent form



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

From Livestock to Game Farming: An exploration of farmers' understandings of land use changes, sustainable agriculture and biodiversity conservation in the Ubuntu Local Municipality, Northern Cape, South Africa

Good day. My name is Charmaine Manyani. I am a doctoral student in the Department of Sociology and Social Anthropology, Stellenbosch University, South Africa. I am asking you to participate in a research study that will contribute to my PhD dissertation degree, which seeks to understand the shift from livestock to game farming in the Northern Cape.

As part of this study I wish to collect information from people like yourself who are working in or are knowledgeable about my study area. If you agree to take part in this study, I will ask you to respond to some questions and engage in conversation with me / participate in a group discussion, in which you draw on your experiences and knowledge concerning issues related to my study. This should take approximately one hour to one hour 30 minutes.

Before I proceed, I need your agreement, either orally or by means of your signature, that you are aware of the following

1. Participation in this research is voluntary, in other words, you can choose whether to take part or not.
2. If you agree to take part, you are free to stop and withdraw at any time, without any negative consequences. You may also refuse to answer any questions that you are not comfortable with and remain part of the study.
3. You will not benefit directly from this research in terms of material gain. However, there may be indirect benefits such as creating a better understanding of the shifts in land use in the Northern Cape. and (ii) the findings of this study could potentially be used for further research.
4. This exercise is voluntary, and as such there will be no remuneration for participation.
5. You will not be identified as a participant in the study unless you give me express permission to use your name or you are responding in your official capacity (in which case the requirements of your institution/organisation around this will be respected). Otherwise your identity will be protected using a code name or pseudonym. I will also keep all the data I collect in a safe place and use it for academic purposes only.

6. If you agree, I would like to record my interview/discussion with you. This makes it easier for me to be sure my notes from our discussion are accurate. If you agree to be recorded, you may still ask for the recorder to be switched off at any time during the interview. The recordings are intended for research purposes only and will not be given to anyone else in the community.
7. I may publish the results of my study in an academic publication. As with the dissertation, unless you have given permission for your name to be used, your identity will remain confidential in any such publication, by using codes or pseudonyms.

If you have any questions or concerns about the research, please feel free to contact one or more of the following:

Researcher: Charmaine Manyani, tel; e-mail: 20619472@sun.ac.za

My Supervisor: Prof. Cheryl Walker, Department of Sociology and Social Anthropology, Stellenbosch University; tel: 021 808 2420; email: cjwalker@sun.ac.za

University Research Office: Ms Maléne Fouche, Division for Research Development, Stellenbosch University; tel: 021 808 4622; e-mail: mfouche@sun.ac.za

SIGNATURE OF PARTICIPANT OR ORAL CONSENT

The information above was explained to me by Charmaine Manyani in English; I am in command of this language. I was given the opportunity to ask questions and these questions were answered to my satisfaction. I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

Name of Participant

Signature of Participant

Date

Or Oral consent given and noted by the Researcher [TICK]:

SIGNATURE OF RESEARCHER

I declare that I have explained the information given in this document to _____ [name of the participant]. He/she was encouraged and given ample time to ask me any questions. This conversation was conducted in English. (If applicable: An interpreter was at hand to assist.)

Signature of Researcher

Date

Afrikaans version: Informed consent form



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

TOESTEMMINGSVORM OM AAN 'N NAVORSINGSPROJEK DEEL TE NEEM

From Livestock to Game Farming: An exploration of farmers' understandings of land use changes, sustainable agriculture and biodiversity conservation in the Ubuntu Local Municipality, Northern Cape, South Africa

Goeiedag, my naam is Charmaine Manyani. Ek is 'n doktorsale student in die Departement Sosiologie en Sosiale Antropologie, Universiteit Stellenbosch, Suid-Afrika. Ek wil u graag vra om deel te neem aan 'n navorsingstudie wat tot my PhD tesis sal bydra. Die doel van die studie is om die beweging van skaapboerery na wildplaasboerdery in die Noord-Kaap te verstaan.

As deel van my studie wil ek graag inligting van mense soos u, wat of in die veld werk of kennis dra oor my studieveld, verkry. Indien u instem om aan die studie deel te neem, sal ek u vra om op 'n paar vrae te reageer en met my/in 'n groep te gesels oor u ervarings en kennis van kwessies wat met my studie verband hou. Ons gesprek sal ongeveer 'n uur tot 'n uur en 'n half duur. Voordat ek verder gaan, moet u mondelings of met u handtekening bevestig dat u bewus is van die volgende:

1. Deelname aan die studie is vrywillig, met ander woorde u kan kies of u wil deelneem of nie.
2. Selfs al stem u in om deel te neem, kan u in enige stadium ophou en selfs onttrek sonder dat dit enige negatiewe gevolge vir u sal inhou. U kan ook weier om enige vrae te beantwoord waarmee u ongemaklik voel, en steeds deel van die studie bly.
3. U sal nie direk voordele uit hierdie studie in terme van materiële vergoeding ontvang nie. Daar mag tog indirekte voordele wees soos byvoorbeeld die studie mag lei om die gebruik van die land beter te verstaan in die konteks van die Noord-Kaap en my bevindinge mag moontlik gebruik word vir verdere ondersoek.
4. U sal geen finansiële vergoeding vir deelname ontvang nie.

5. U identiteit as deelnemer aan die studie sal nie bekend gemaak word nie, tensy u my uitdruklik toestemming gee om u naam te gebruik, of tensy u in u amptelike hoedanigheid deelneem (in welke geval die vereistes van u instelling in hierdie verband nagekom sal word). So nie, sal u identiteit vertroulik bly en beskerm word deur die gebruik van 'n skuil- of denkbeeldige naam. Die navorsingsdata sal ook veilig bewaar word en sal nie gebruik word vir enige iets anders as akademiese doeleindes nie.

6. Indien u instem, wil ek graag my onderhoud/gesprek met u opneem. Dit maak dit vir my makliker om te verseker dat my aantekeninge oor ons gesprek akkuraat is. As u toestemming gee vir die opname, kan u steeds in enige stadium van die onderhoud vra dat die opnemer afgeskakel word. Die opnames is slegs vir navorsingsdoeleindes en sal nie aan enigiemand anders in die gemeenskap gegee word nie.

7. Ek kan dalk die resultate van my studie in 'n akademiese publikasie publiseer. Soos met die verhandeling, sal kodes of skuilname gebruik word om u identiteit te beskerm, tensy u my toestemming gee om u naam te gebruik.

Vir enige vrae of probleme in verband met die navorsing, kontak gerus een of meer van die volgende:

Navorsers: Charmaine Manyani, tel: 073 985 7695; e-mail: charmsrs@gmail.com

My studieleier: Prof Cheryl Walker, Departement Sosiologie en Sosiale Antropologie, Universiteit Stellenbosch, Privaat Sak XI, Matieland 7602, Suid-Afrika; (tel: 021 808 2420; e-pos: cjwalker@sun.ac.za).

Afdeling Navorsingsontwikkeling: Me Maléne Fouché, Afdeling Navorsingsontwikkeling, Universiteit Stellenbosch, Privaat Sak X1, Matieland 7602, Suid-Afrika; tel: 021 808 4622; e-pos: mfouche@sun.ac.za .

MONDELINGE TOESTEMMING/HANDTEKENING VAN NAVORSINGSDEELNEMER
--

Charmaine Manyani het die inligting hier bo in Engels//Afrikaans aan my verduidelik. Ek het 'n geleentheid ontvang om vrae te vra, en dit is bevredigend beantwoord. Ek stem hiermee vrywillig in om aan hierdie studie deel te neem. 'n Afskrif van hierdie vorm is aan my oorhandig/is aan my aangebied, maar ek het dit van die hand gewys.

Teken enige voorwaardes aan (bv. dat deelnemer instem om geïdentifiseer te word):

Naam van deelnemer

Handtekening van deelnemer

Datum

OF Mondelinge toestemming verleen en aangeteken deur die navorser [MERK]:


HANDTEKENING VAN NAVORSER

Ek verklaar dat ek die inligting in hierdie dokument sorgvuldig aan _____ verduidelik het. Hy/sy is aangemoedig om vrae te vra oor hoe die onderhoud gevoer sal word. Die gesprek is in Engels//Afrikaans gevoer. Hierdie respondent het gekies om toestemming te verleen deur middel van:

Handtekening van navorser

Datum

Appendix 8: Transformation of the hunting industry application form



APPLICATION

TRANSFORMATION OF THE HUNTING INDUSTRY

NEW APPLICATION
 AMENDED APPLICATION → APPLICATION #

REASON FOR AMENDED APPLICATION	

Checklist (Please attach the below mentioned to your application form) <i>Mark applicable box with "X" for ease of record keeping</i>	
<input type="checkbox"/>	Copy of ID document of applicant (Part A)
<input type="checkbox"/>	Copy of ID document of registered land owner if applicable (Part A)
<input type="checkbox"/>	Copy of authorization or lease agreement if applicant is not the landowner
<input type="checkbox"/>	A valid resolution of Trust or Closed Corporation if land is registered as such
<input type="checkbox"/>	CK 2, BEE Certificate, Tax Clearance
<input type="checkbox"/>	Details of mentor (Part B)
<input type="checkbox"/>	Mentor agreement with beneficiary (if applicable)
<input type="checkbox"/>	Portfolio of evidence confirming applicants' own expertise regarding game management or portfolio of evidence of mentor or partner
<input type="checkbox"/>	A Business Plan highlighting the purpose of donation or loan
<input type="checkbox"/>	Details of Property (Part C) and Map indicating size and location of game camp on the property
<input type="checkbox"/>	Map should also indicate all game accessible watering points in the game camp area
<input type="checkbox"/>	Directions to property and coordinates (Part D)
<input type="checkbox"/>	Does the property have a valid game farm permit (Part E)
<input type="checkbox"/>	Does the property have a valid WR number from Veterinary Services (Part E)
<input type="checkbox"/>	Description of fence e.g. height, number of strands, spacing of droppers and poles, electrification, jackal proofed etc
<input type="checkbox"/>	Description of infra-structure and equipment to manage and breed the species applied for
<input type="checkbox"/>	Motivation letter for requiring assistance (engagement letter with the Department)
<input type="checkbox"/>	Declaration of game animals already established on the property (Part F)
<input type="checkbox"/>	List of animals and numbers which you are interested in receiving from the Department (Part G)

Please note that:

- ✓ Applicants must be HDI land-owners/users or must be duly authorized by the landowner in writing before such an application will be considered.
- ✓ For those beneficiaries who do not have a mentorship relationship the department might assist in this regard.

TRANSFORMATION OF THE HUNTING INDUSTRY

 APPLICANT INITIALS DATE
Page 1 of 7

- ✓ That the proposed area meets the habitat requirements of the species applied for and that a habitat suitability analysis report to be attached to prove the property is suitable for the applied for game species. (This might be done in-house as a basic assessment should funding for an external consultant be a problem).
- ✓ Only applications from within the Northern Cape Province will be entertained.

A. CONTACT PERSONAL DETAILS:

CLIENT DATASHEET		APPLICANT	LANDOWNER (IF NOT APPLICANT)
* ID / Passport			
* Institute / Business name			
* Surname			
* Initials			
Full Name			
Telephone	Home		
	Work		
Fax	Home		
	Work		
Cell phone	Home		
	Work		
Email address:			
Physical address	Street		
	Suburb		
	Town		
	Postal code		
	Province		
Postal address	PO Box		
	Post Office		
	Town		
	Postal code		
	Province		

B. MENTOR PERSONAL DETAILS:

Full name	Name		Surname	
Identity number				
Physical address	Street number and name			
	Suburb			

	Town:	
	Postal code:	
Mobile #		Business #

C. FACILITY / PROPERTY WHERE THE APPLICANT IS THE OWNER OR HAS A VALID LEASE AGREEMENT:

Farm 1	Name	
	Number	
	Hectares	
	Title Deed Nr.	
	District	
	Nearest Town	
	Province	
Farm 2	Name	
	Number	
	Hectares	
	Title Deed Nr.	
	District	
	Nearest Town	
	Province	

D. DIRECTIONS TO GAME FARM:

E. ADDITIONAL PERMIT INFORMATION FOR FARM:

GAME FARM PERMIT	
Game Farm Permit Number (if farm is registered with this Department)	
VETERINARY SERVICES (FOR BUFFALO ONLY)	
WR Number (if farm is registered with the Department of Agriculture)	

H. PERIOD OF DONATION / LOAN APPLIED FOR:

VALIDITY PERIOD REQUESTED	
From: (dd/mm/yyyy)	To: (dd/mm/yyyy)

I. ADDENDUM - FARM PROPERTIES:

Farm 1	Name		
	Number		
	Hectares		
	Title Deed Nr.		
	District		
	Nearest Town		
	Province		
Farm 2	Coordinates		
	Name		
	Number		
	Hectares		
	Title Deed Nr.		
	District		
	Nearest Town		
Farm 3	Province		
	Coordinates		
	Name		
	Number		
	Hectares		
	Title Deed Nr.		
	District		
Farm 4	Nearest Town		
	Province		
	Coordinates		
	Name		
	Number		
	Hectares		
	Title Deed Nr.		

Farm 5	Name	
	Number	
	Hectares	
	Title Deed Nr.	
	District	
	Nearest Town	
	Province	
	Coordinates	

J. ADDENDUM - ADDITIONAL PERSONS INVOLVED:

Surname	Initials	Identity Number or Passport number	Role of this person

K. INTERESTED & AFFECTED PARTIES – WHOS' RIGHTS MAY BE AFFECTED (ESPECIALLY FOR THE KEEPING OF BUFFALO)

(1) PERSON / LEGAL IDENTITY	
Full name	
Identity number or Company Registration Number	
Physical address	
Farm name	
Mobile #	Business #
Possible Rights to be effected	

(2) PERSON / LEGAL IDENTITY	
Full name	
Identity number or Company Registration Number	
Physical address	
Farm name	
Mobile #	Business #
Possible Rights to be effected	

L. SIGNATURE OF APPLICANT:

Signature	Date
-----------	------

