The Political Ecology of Great Limpopo Trans frontier Conservation Area (GLTCA): Focusing on Human-wildlife Conflicts.

Inaugural dissertation to complete the doctorate from the Faculty of Arts and Humanities of the University of Cologne in the subject Social and Cultural Anthropology

presented by

Bright Masocha

born on 19 November 1982
in Buhera, Zimbabwe

Cologne, October 2021

Abstract

In Africa, wildlife conservation is one of the most topical issues that are discussed at all societal levels. There are considerable contacts between humans and wildlife on the edges of conservation areas in Zimbabwe, especially around the Gonarezhou National Park. This thesis focused on human-wildlife conflicts in an area that is along a wildlife corridor in the Great Limpopo Trans frontier Conservation Area. The study aimed to find out the relations between humans and their livelihoods and wildlife, over time, in an environment marred with uncertainties and complex history. The research therefore was guided by the existing theories to examine conservation history, and human-wildlife interactions in the TCFAs considering land use contestations and power struggles on the Zimbabwean side of the GLTFP. A combination of political ecology and multispecies ethnography theories to frame this thesis. An ethnographic research methodology was conducted through a prolonged stay of 9 months in Sengwe area of Chiredzi district in Zimbabwe. Data was collected through a combination of both qualitative and quantitative tools. Results indicate that, humans have interacted with wildlife throughout the modern history and conservation of the later was imbedded in societal culture and norms. Recent migrations, displacements, colonialism and land reforms alternated human perceptions to wildlife and nature in general. Humans-wildlife conflicts are double faced, human attacks on wildlife and wildlife attacks on humans, crops and livestock. Following high frequencies of the above attacks, multi-layered adaptation strategies were adopted to minimise their occurrences. This study concluded that human-wildlife conflicts were more frequent in areas on the edges on national parks. There is also a concept of human-wildlife history that plays a huge role in current and future conservation strategies.

Acknowledgements

This this thesis is a product of a collective effort among a diverse group of people. Even if, I was the one who complied this monography, I wouldn't have done this alone. Therefore, I want to extent my gratitude to those who participated in this process.

I would like to thank Michael Bollig for their immense contributions, that shaped this thesis. The comments and suggestions were very important in sharpening my ideas to make them better. I would also want to thank the participants in colloquia and workshops Cologne for giving useful comments in the early stages of this thesis. Fellow students and friends have also helped with comments and criticisms that I used in writing this draft.

Centre for Applied Social Sciences, at the University of Zimbabwe help me to participate in the workshops and fieldworks in Chiredzi. I would also single out Billy Mukamuri for his suggestions and support. In this regard, I also want to appreciate other Zimbabwean government departments and non-governmental organisations departments in Zimbabwe who provided information and facilities that I have used during my field work. I want to thank the participation villages: all people that I have interacted with during my fieldwork significantly helped me.

My fieldwork was partially funded by *a.r.t.e.s for all* from artes Graduate School for Humanities, Cologne and I am so grateful for that support.

I would also want to thank my family especially my wife Eletina, who has been the main source of income throughout this PhD program. It has been a difficult job for them.

Table of Contents

List of Figures

Abbreviations

AHEAD	Applied Health Education & Development
AMADE	Administrative Management and Design of Game Management Areas
Arex	Agricultural research and extension services
BMCF	Bovine Malignant Catarrhal Fever
CAMPFIRE	Communal Areas management Programme for indigenous Resources
CARs	Common Assess Resources
CASS	Center for Applied Social Science (University of Zimbabwe)
CBD	Convention on Biological Diversity
CBNRM	Community-based natural resource management
CBO	Community-Based Organisation
CESVI	Cooperazione e sviluppo
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPRs	Common Property Resources
EC	Environment Committees
FMD	Foot and Mouth Disease
FTLRP	Fast track land Reform Programme
FZS,	Frankfurt Zoological Society
GCT	Gonarezhou Conservation Trust
GDP	Gross Domestic Product

GIZ (formerly GTZ)	Gesellschaft für Internationale Zusammenarbeit
GLTFCA	Great Limpopo Trans frontier Conservation Area
GLTFP	Great Limpopo Trans frontier Park
GNP	Gonarezhou National Park
GTZ	Gesellschaft für Technische Zusammenarbeit
HHC	Human-Human Conflict
HIV	Human Immune deficiency virus
HC	Hlarweni CAMPFIRE
HWC	Human-wildlife conflicts
HWH	Human-Wildlife History
HWR	Human-wildlife relations
IUCN	International Union for the Conservation of Nature
JOC	Joint Operation Commands
KAZA-TFCA	Kavango-Zambezi Transfrontier Conservation Area
MDT	Malipati Development Trust
NRM	Natural Resource Management
NTFP	Non-Timber Forest Products
PAC	Problem Animal Control
PPF	Peace Parks Foundation
RDCs	Rural District Councils
SADC	Southern African Development Cooperation
SEVACA	Sesthile Vamanani Craft Association

TBNRM	Transboundary Natural Resource Management
TFCA	Transfrontier Conservation Area
USAID	United States Aid for International Development
WWF	World Wildlife Fund
ZANU PF	Zimbabwe African National Union Patriotic Front
ZELA	Zimbabwe Environmental Lawyers Association
ZimParks	Zimbabwe Parks
ZNA	Zimbabwe National Army
ZPWMA	Zimbabwe Parks and Wildlife Management Authority
ZRP	Zimbabwe Republic Policy

Glossary Shona (S) Ndebele (N) and Shangaan (Sh) to English

Ubuntu (N)/hunhu (S)/umunhu (Sh).	Humanity/African values of mutual respect
Ndari (S)	African traditional beer
Bumharutsva (S)	First rain of the season
Moya wecchaka (Sh)	evil spirits
Xiphato (Sh)	poem of praising the gods
Kelekele (Sh)	confusion that makes someone to lose orientation / directions even in an area that one is very familiar with.
Mitupo (S)	totems
Mudzimu (S)	ancestral lineage
Mhofu (S)	Eland
Muhlolo (Sh)	taboos
Swikwembu (Sh)	spirit mediums
Madzimambo (S)	traditional leaders
Mukwerera (S)	rain making rituals
Nghala (Sh)	Lion
Njuzu (S)	mermaids
Karingani (Sh)	folktales
Chisi (S)	a day set aside in honour of the gods
Xikwembu (Sh)	God
Pfeka (S)	avenging spirits of the dead
Makomo emidzimu (S)	sacred mountains

List of Tables

Chapter 1

Introduction

1.0 INTRODUCTION

Humans and wildlife have coexisted throughout the history of nature, but along the way, conflicts (HWC) have arisen that have threatened species diversity and humans' wellbeing (Benjamin-Fink 2019). HWC are common where humans live on the edges of conservation areas, which is the situation in the focus of this dissertation – the Great Limpopo Trans Frontier Park (GLTFP). GLTFP is a trilateral agreement by Zimbabwe, Mozambique and South Africa meant to conserve wildlife resources across boundaries by mutual management and arrangements (Peace Parks Foundation, 2003). It was formulated in the year 2000 when the three heads of states signed a Memorandum of Understanding to initiate the long process. Trans-frontier conservation approaches such as Great Limpopo Trans Frontier Conservation Area (GLTFCA) to natural resource governance in Africa have received wide recognition from scholars and development agencies at both local and international levels. Various studies have focused on social-ecological, ecological (Le Bel *et al*, 2011), developmental (Dzingirai 2004), diplomatic, political and sometimes historical (Murombedzi, 2003) perspectives on this relatively new approach to the conservation of African wildernesses. My study used a mix of political ecology and multispecies ethnography to analyse conflict between humans and wildlife, as well as between livelihoods and wildlife conservation, in Zimbabwe's southern Lowveld, part of the GLTFCA.

This study focuses on wildlife conservation policies and human-wildlife interactions in a southern African context. To better understand the emergence of conservation and HWC, I start with a brief overview of scholarship on human-wildlife interactions in the precolonial period, followed by an analysis of colonial and neo-colonial conservation and land use practices as well as the emergence of community-based natural resource management (CBNRM) in recent years.

In this introductory chapter, I intend to spell out the objectives of the study and give a brief review of literature. This is where I will also introduce concepts to be discussed in-depth in

this dissertation and will offer a brief background to themes related to human wildlife interactions, rural livelihoods, and trans-frontier conservation.

1.1 Background of the study

The history of conservation in Africa cannot be separated from its complex political history (Beinart 2000) that has shaped the current socio-economic, environmental and cultural circumstances in which the continent finds itself today. Scholars have often flipped back to the precolonial era of African states to trace arguments pertaining to current conservation practices (Masona 1987, Tavuyanago 2017, Murombedzi 2003, Madzwamuse 2010). In this respect, studies have often portrayed precolonial Africa as an 'ideal' system that at least left huge populations of wildlife to survive in African savannah woodlands (Murombedzi 2003). In their arguments, Matowanyika (1989) and Mavhunga (2014) mention that in these societies nature conservation practices were based on deep-rooted indigenous knowledge systems (IKS) that included religious beliefs, norms, values and spirituality that were intertwined with the local livelihoods' needs. The traditional systems made nature conservation a mandatory and collective goal (Nhira and Fortman 1992, Madzwamuse 2010). Power dynamics in these pre-colonial societies were critical in shaping nature-based livelihoods, King Shaka of the Zulu nation, for example, regulated the use of wildlife resources in his domain by designating Hluhluwe as a protected area, while King Mzilikazi of Zimbabwe's Matabeleland region introduced a permit system to regulate hunting (Masona 1987; Mackenzie, 1988). In those pre-colonial states and communities, traditional leadership was legitimated through forms of democracy and was supported by spiritual or supernatural leadership (Mavhunga 2014).

Colonial and post/neo-colonial Period

Many current socio-political and environmental challenges to natural resource governance can easily be traced back to the period of colonial rule imposed upon African societies (Sadomba 2010, 2011) and the amplification of such in the post/neo-colonial period (Murombedzi 2003). 'Fortress' conservation policies, which brought about the current forest and wildlife reserves, were largely based on the need to preserve elite hunting grounds (Oates 1999; Terborgh 1999). This was introduced as a possible provider of both ecological and economic benefits to local communities (Child 2004). Fortress conservation resulted in the massive displacements of communities from both their settlements and livelihoods

(Mombeshora and Le Bel 2009). This was to become one of the longest-enduring problems in the conservation of nature (Ibid). The formation of nature reserves was associated with colonial governance, laws and policies (Murombedzi 2003). The colonial nature of the conservation rules to the local communities, discredited them resulting in contestations and conflicts among humans and between humans and wildlife (Adams and Hutton 2007). In southern Africa, especially in colonial South Africa and Zimbabwe, the national parks were established during a period characterised by serious conflict between the 'white' settlers/colonialists and African communities over racially selective laws, (Beinart 1989).

Key colonial pieces of conservation legislation that were introduced in Zimbabwe, then called Southern Rhodesia, had been directly influenced by British conservation ideology and as such had not been tested for compatibility in the African context before implementation (MacKenzie, 1997). The colonial government of the Cape colony implemented conservation laws as early as the 19th century and the same were replicated in Zambia, Malawi and Zimbabwe in a one size fits all approach (Masona, 1987). The Rhodesia Game Law Consolidation Ordinance of 1906 (amended in 1926) already contained elements of the '*appropriation of nature*' by the settler regime (Mackenzie, 1988). The 'preservation' phase, associated with the early attempts at game legislation and establishment of reserves, was part of the transformation of hunting into a sport of the elite. Species would be protected in order to supply hunting recreation to those who qualified through race and wealth (Ibid).

Other laws passed in Southern Rhodesia included the Land Apportionment Act (1930), the Native Land Husbandry Act, the Land Tenure Act (1969) and the Parks and Wildlife Act of 1975, all of which alienated the native population and resulted in them 'hating' the nature reserves, private farms and national park areas for the oppression they symbolised (Adams 2003). From the locals' perspective those laws served primarily to alienate them from their own land rather than '*to conserve nature*' (Ibid). These laws disrupted native livelihood strategies and forced them to seek employment on the white settlers' farms and mines, which at the time were failing to attract African labourers (Sadomba, 2011). Sadomba (2013) gave a detailed account of how the colonial government-imposed taxes on Africans had to be paid in cash that could only be earned through employment in mines and farms or other settler-owned business ventures. Colonial conservation policies were therefore regarded as alien, prohibitive, selective and meant to limit livelihood options for the natives;

they resisted these policies through poaching and wildlife poisoning, among other means (ibid).

Restrictive conservation policies started in the 1940s when most of the protected areas were made official and even amplified by the post-colonial governments (Mackenzie 1988). As Nelson (2003) pointed to, the alienation of the Maasai pastoralists in the Serengeti was directly influenced by the formal opening of Serengeti National Park in 1951. To provide a few examples, the declaration of the wilderness of Selous in Tanzania as a Game Reserve led to the displacement of 40,000 people; in 1988, more than 8,000 Maasai and Parakuyo pastoralists were evicted from Mkomazi Game Reserve by the Tanzanian government (Brockington 2002); and in 1982 in Uganda, 4,500 families were evicted from Lake Mburo National Park without compensation (Emerton 1999). This clearly shows that conservation policies in both eastern and southern Africa, regardless of which country initiated them, were disruptive to human livelihoods and instigated the present-day human-wildlife conflicts (HWC), which will be discussed later. In this respect, literature has revealed uniformity in terms of alienation, displacements and thus resistance in colonial and post-colonial African conservation policies.

When most African governments attained independence, they declared that they would continue with colonial conservation policies in anticipation of gaining foreign currency from tourism (Sigh and van Houtum 2002). This strict protection of nature failed, however, to consider important social, cultural and political issues, which ultimately led to difficulties in enforcing conservation policies (Andrade and Rhodes 2012).

1.1.3 The Emergence of Community –Based Conservation Strategies

By the end of the 20th century, massive decline in wildlife species warned conservation biologists, policy makers and social scientists that protectionist methods of conservation were considerably divorced from real development challenges and sustainable conservation goals (Lele *et al*. 2013). The persecution of wildlife in the parks, communal areas and private game farms, which some scholars linked to a lack of incentives for communities to conserve wildlife, forced African governments, under pressure from environmental and development organisations, to find alternative ways to decentralise conservation and ownership to lower-level institutions (Hulme and Murphree, 2001 emphasis made).

Conservation had to shift from highly unfavourable colonial (centralised) regulations to more popular Community-Based Natural Resource Management (CBNRM) (Dzingirai 1996). This approach was based on cost sharing (Schnegg and Bollig 2016) and aimed to get the 'buy in' of communities living with nature on the pretext that benefits from these resources would provide them with incentives to conserve nature (Mutandwa and Gadzirayi, 2007). CBNRM programmes in the form of Administrative Management and Design of Game Management Areas (AMADE) in Zambia (Lubilo and Child 2010) and the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) were suggested as possible options in natural resource conservation (Murombedzi 2010). Bollig (2016) noted the paradigm shift in conservation in northern Namibia where selected communities were given rights to manage land and wildlife in it through a conservancy system. The CAMPFIRE, which was supposed to involve local communities in nature conservation decision making, was initiated in Zimbabwe by the Department of National Parks and Wildlife Management in the 1980s, following protracted research supporting the fact that involving local-level institutions in conservation would change their attitudes towards wildlife (Gillingham and Lee 1999, Treves *et al* 2009).

Earlier studies reported that CAMPFIRE was successful and effective in reducing human-wildlife conflicts as a result of benefit-sharing, rapid responses by conservation authorities to reports of problem animals and improved environmental awareness programmes (Woodroffe *et al* 2005, Mapedza and Bond 2006). CAMPFIRE programmes (Mahenye and Sengwe) that surrounded the Gonarezhou National Park were among the first to receive wide recognition for their success (Murphree 2001). These projects in the south-eastern Lowveld were regarded by scholars, international non-governmental organisations, as well as regional governments as ideal case studies of a functional programme as early as the 1990s, thus the same model was adopted by other countries such as Namibia and Botswana (Gandiwa *et al*. 2013). Success was attributed to commitment, political will and collective community interest in decision making and other responsibilities (Mapedza and Bond 2006). However, earlier scholars have attributed this success to high financial and technical support from non-governmental organisations (NGOs).

New narratives of crises and the collapse of the programme were exposed from as early as the 1990s into the new millennium when some of the participating communities openly

urged the government, donors and local authorities to 'Take back your CAMPFIRE' (Dzingirai 1996). Communities no longer received benefits, which studies attributed to local elite capture (Balint and Mashinya 2006), tribalism (Dzingirai 1994), political instability, land reform and the subsequent economic meltdown (Bond 2001). The programme action for decentralisation in CAMPFIRE decision making was also blamed for bestowing power to lower-level state institutions (Murombedzi 1992, 1994; Murphree 1991) rather that to local institutions that had a history of downward accountability (Ribot 1999). In Mbire district, northern Zimbabwe, discontent was expressed by locals who blamed the growing number of outsiders as the reason for lions killing people (Matema and Andersson 2015).

1.1.4 Statement of the problem

Studying human-wildlife conflicts in this part of Zimbabwe is complex because of the unique history of the population and the closeness that humans and wildlife are. Human-wildlife relations take various forms that include conflicts and coexistence. While conservation efforts have been implemented to serve African wildlife and nature in general, the biggest threat has been human-wildlife conflicts (Benjamin-Fink 2019). There have been studies that focused on causes and forms of HWC in some African environments but there is always a need to further contextualise them in specific areas. In the Zimbabwean conservation areas, HWC have been managed through various programmes like CAMPFIRE, which was arguably one of the best measures in the region.

Emerging concerns over HWC in the GLTFCA are associated with political uncertainties in all three participating countries, unequal distributions of benefits, displacements and undermining of livelihoods strategies, non-recognition of locally based institutions and land invasion in the north-western Gonarezhou National Park and surrounding private game ranches. Observers may want to ask if, how and to what extent communities have benefited nearly 20 years after the establishment TCFA was implemented? The opposite of the envisioned expectations is what is on the ground because there are huge cases of HWC. The problem is that it was envisioned that the establishment to TFCA would improve interactions between wildlife and the humans living close to them. It was the expected that the foundation laid by institutions such as CAMPFIRE would help fund community development projects. The problem of HWC however remains an issue regardless of the presence of various stakeholders.

Stakeholders are said to have up to this point exerted different levels of commitment to the successful implementation of the GLTFCA. The diverse interests and approaches by these stakeholders, through various institutions, have ultimately had little effect on the conservation of wildlife and rural livelihoods. Humans are frequently in conflict over wildlife management, benefit sharing and decision making. However, there are reports that humans are also in conflict with wildlife. The research therefore was guided by the existing theories to examine stakeholder participation, institutional and livelihood dynamics in the TCFAs considering land use contestations and power struggles on the Zimbabwean side of the GLTFP.

1.1.5 Main objective

The study examined contestations brought about by diverse livelihoods, institutional dynamics and different interests among the stakeholders in GLTFCA with specific reference to Sengwe communities in the Chiredzi district.

1.1.6 Research Questions

To answer the above research objective, the following questions will be used:

1. What are the current stakeholder's interests, livelihoods and institutional arrangements in the GLTFCA?
2. How do land invasions and insecure settlements in the TFCA shape the direction that the conservation of nature takes?
3. What are the perceptions of the changing conservation environment, and the contestations and coping strategies with regards to it?

1.2. RESEARCH CONTEXT

1.2.1 Study area

The study was conducted in Sengwe communal area in GLTFCA. Sengwe (wards 14 and 15) of Chiredzi district is adjacent to Gonarezhou National Park in Zimbabwe's southern Lowveld and was purposively selected as the main case for this study. Additional data was collected in other communities around GNP. Geographically, the community is located mainly in Chiredzi district in the southern semi-arid Lowveld of Zimbabwe and to the north of and close to the Kruger National Park. The area receives an average annual rainfall of between

300 and 400 mm and high average maximum temperatures that exceed 35 °C, with frequent droughts which threaten food security and livestock production.

Classification on conservation areas in Zimbabwe

Before the land reform program, Zimbabwe's wildlife reserves constituted about 13% of the total land area (Müller 2006). According to the Parks and Wildlife Act of 1975, wildlife was mainly protected through the promulgations of National parks, recreational parks, safari areas and private game reserves. National Parks are the biggest areas providing wide home ranges to wildlife, presumably without any disturbances from humans or livestock even if ecotourism activities are conducted inside. Related to National Parks were recreational areas or parks which were smaller but with a high concentration of recreational facilities for visitors. The recreational parks could be within or outside national parks. According to the same act, safari areas were set aside for controlled hunting and other consumptive types of tourism. They are usually near or buffering between communities and national park. The idea was to reduce points of contacts between wildlife and humans thus reducing human wildlife conflicts. Covering same buffer zones were the private game reserves, whose owners were given permission to protect and hunt wildlife through a quota system. It is important to note that in Sengwe, the communal area is in some part bordering Gonarezhou national Park and Malipati safari area.

My study mainly focused on the area governed by Chief Sengwe and part of Sengwe-Tschipise Corridor which therefore covers ward 14 and 15 of Chiredzi rural district area (Figure 1). However, for some parts of my study, especially on history and migration, data from the whole area was used.

Figure 1 Great Limpopo Transfrontier Conservstion Area. (source: Google Maps)

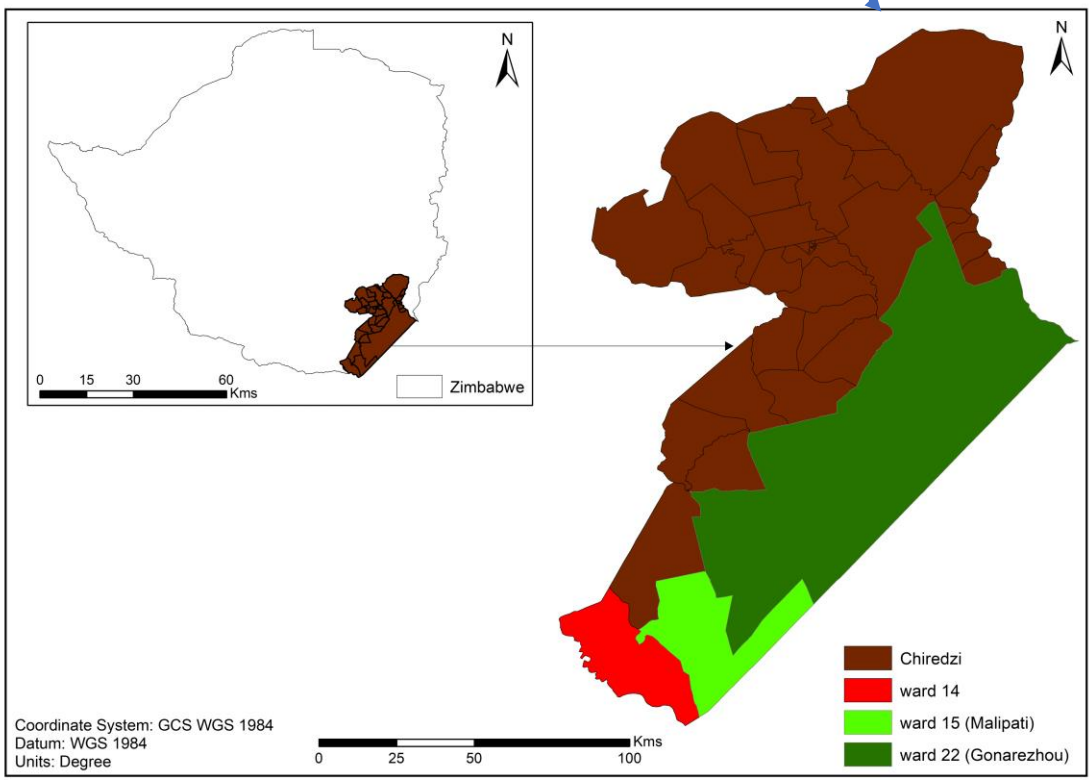


Figure 2 ***Sengwe communal areas in Sengwe-Tschipise corridor in the GLTFCAs.***

Delimitation

Research started in June 2016 when I started preparations and conducted a preliminary visit to the study area. As I will discuss further in this chapter, various fieldwork visits were organised between 2016 and 2019 collecting data. In year 2020, communication with my research assistance continued so that I could get the other developments that were useful to my topic and in case I wanted additional information, I would directly communicate with specific informants. To improve my understanding of the topic, I did not confine myself to the area I mentioned above, some of the leads would take outside that area.

1.2.2 Great Limpopo Trans Frontier Conservation Area (GLTFCA)

The trans frontier conservation idea was embraced by the World Bank in the formative stages of the Great Limpopo Trans Frontier Park (GLTFP) (World Bank 1996). The concept of bringing together conservation areas across national boundaries was borrowed from the Americas, where it had been implemented long before. In May 1990, a businessman who had become conservationist, the late Anton Rupert who was President of the then WWF South Africa, convinced Mozambique's former President, Joaquim Chissano, to have Zimbabwe, Mozambique and South Africa manage under one umbrella all the National Parks of the three countries (Peace Parks, 2003). Diplomatic and scientific feasibility studies followed with the idea that the GLTFP would increase wildlife home-ranges, improve tourism revenues and strengthen peace in the fragile region bordering the three counties (Spierenburg *et al*, 2008).

Even though Southern Africa had vast endowments of natural resources, it was faced with recurrent challenges ranging from poverty to environmental degradation (Rusinga and Mapira, 2012). There was a need for a paradigm shift to one that would include new ways of conserving nature. Trans-frontier Conservation Areas (TFCAs) in Southern Africa became recognised in the 1990s and quickly became a very attractive concept among environmentalists and development practitioners, donors included, who had been struggling all along to find ways to deal with declining rural economies, declining biodiversity populations and poaching (Anderssen *et al*, 2008). The concept was also viewed as an expansion of CBNRM and as an alternative to the failures of the former initiatives. The foundation that the TFCAs were built on was described by Wolmer (2003) as 'informed by

an array of discourses- anarchist, scientific, romantic, managerial and neoliberal – and bound up with an equally desperate range of environmental, economic and political agendas'. This implies that the GLTFP was built on a more political rather than environmental agenda.

A plethora of approaches have been brought forward with the aim of understanding dynamics and challenges faced by TFCAs in southern Africa. Hutton, *et al*. (2005) saw TFCAs as driven by the market and considering the reduced roles of states, tried to portray this conservation concept as apolitical and participatory in nature. To this end, it was argued that the market would distribute benefits among participating local communities, thereby increasing chances of cooperation among them (Gandiwa *et al*. 2013). However, Duffy (2006) argued that these neoliberal approaches were highly political, and the market was influenced by the global capital, which was also interested in the implementation of the TFCAs.

Spierenburg, *et al*. (2008) explored how negotiations and interaction in the formation of the GLTFCA affected institutional choices with regards to contradictions on how rural communities were being handled in Mozambique and South Africa. Another school of thought indicated that research on GLTFCA should not exclude Zimbabwe because of its Fast-Track Land Reform Programme that significantly altered land use, including the Gonarezhou National Park (Wolmer 2003 with emphasis). Duffy (2006) argued that the TFCA concept has introduced new forms of conflict over access to and control of natural resources; where it is the abundance of resources within the GLTFCA that is the source of conflicts.

Munthali (2007) highlighted the potential of the TFCAs to contribute to poverty alleviation on the condition that privatization, co-management and the right to individuals' use of land as collateral would be implemented. The concept of poverty alleviation was inherited from the well documented CBNRM, which gave communities some degree of ownership and control over natural resources (Gandiwa *et al*. 2013). CBNRMs were centred on benefit-sharing and collective community resource governance (Büscher, 2010).

According to Dzingirai (2004), the introduction of Peace Parks Transboundary Conservation Areas was the amplification of the former CBNRM, which was more concerned with the

management of Common Property Resources (CPRs) or just Common Assess Resources (CARs), through old institutions. Conflicts and incompatible policy emerged at the local level, which in turn caused challenges to the sustainable management of natural resources and rural livelihoods (Wolmer, 2007).

TFCAs have been viewed to have a role in regional and international cooperation, conflict prevention and resolution among Southern African countries, as argued by Rusinga and Mapira (2012). Their assessment revealed that TFCAs had the potential to deal with a long history of non-environmentally related conflicts among southern African states, since they would promote cooperation and mutual understanding. The formation of the GLTFCA itself was a highly political process; governments have maintained their close diplomatic and political control over the implementation process, as witnessed during the signing ceremony, where politicians concentrated on peace building rather than nature conservation (The Herald 2016). Presidents of the participating countries of the trans-frontier initiative were enticed to sign treaties and agreements under the logic that it would foster common understanding among citizens. ON the Zimbabwean side a Joint Operation Commands (JOC) – comprising primarily security departments and national park officers – was created, (side-lining local communities, civil society and business associations) to oversee the decision-making process.

However, fifteen years after Zimbabwe, South Africa and Mozambique signed the Memorandum of Understanding, which officially opened GLTFP, the initiative is facing much larger challenges that threaten its existence. The following brief analysis of literature pertaining to Zimbabwe's land reform programme will offer insight into the region's social-political context.

1.2.3 Zimbabwe's Contested Land Reform Programme - Park Invasion

The implementation of the trans-frontier conservation programme in Zimbabwe must be understood in the context of the Fast-Track Land Redistribution Programme (FTLRP), which started with sporadic land acquisitions in 1999, and was legalised with Constitutional Amendment #16 in 2000. This programme totally changed land use and livelihood options in the country (Scoones *et al*. 2010, 2014, Sadomba 2011). The programme, as noted by Hanlon *et al*. (2013), was aimed at correcting historical land imbalances brought about by

the colonial government through racially selective laws. Even if some scholars dispute the idea that the programme was meant to appease and buy votes from the populace a time when the ruling party (ZANU PF) was losing popularity (Wolmer 2003), the fact remains that it shifted many aspects of life for rural citizens. Gonarezhou National Park (GNP) and some of the private game farms (Malilangwe, Nuanetsi and Save River Conservancies included) that are part of the GLTFCA were not spared; about 740 households, constituting more than 5000 individuals, invaded the park (Mombeshora 2006) and thousands invaded the private game farms (Wolmer *et al*, 2004).

Under the FTLRP, the beneficiaries do not have ownership rights to land, which remains state property (Hanlon *et al* 2013). In this respect, offer letters (documents that were issued by the government to indicate that you have some authority over the specified piece of land) for small scale farms (A1) and lease agreements for the large-scale farms (A2) were not transferable and the state could withdraw them whenever it wished (Wolmer 2003). This opened previously private, protected and state lands to other types of use and user rights; open access, common pool and private leases, which in turn resulted in high levels of individualism, among other challenges (Rihoy *et al* 2010). This scenario was complicated, and among other effects, limited investment options for the newly resettled farmers, who could no longer use land as collateral[1]. They therefore resorted to other quicker and easier means of utilising resources – informally and illegally. The picture of destruction to the rural environment and household economies described by Wolmer *et al*. (2004) echoed Hardin's '*Tragedy of the Commons*' in the GLTFCA.

1.2.4 Sengwe Communities

The Sengwe community is mainly comprised of the Mantsena community that migrated from Mozambique (Mombeshora and Le Bel 2008). Community members speak Shangaan, Venda and Pfumbi (this does not include the Karanga, Ndau and Ndebele who are minority populations in the area) (Mukamuri *et al*, 2011). The most important history of this group is that they have been subjected to displacement, threats of displacement, [forced] migration and to various conservation experiments over time, such as CAMPFIRE and now GLTFCA (Ibid).

[1]This was possible for previous landowners, the former commercial farmers. In the rural setup individuals cannot use land as collateral.

There are three (3) dominant ethnic groups, Shangaan, Shona and Ndebele, in the area as identified by Mukamuri *et al* (2003). To put this in context, Shangaan are part of the Shangaan-Tsonga group who were native to South African northern provinces and Mozambique. There are various tribal group within Shangaan, and these include the Tsonga, Tswa, Kalanga and Vandzawu. However, in this thesis, I identified them as Shangaan since they speak that language, have very similar cultural identities and this group had also been united by intermarriages and forced settlements (that I will discuss in the next chapters). During the times of King Shaka of the Zulu kingdom in South Africa, the Shangaan people were part of the Zwide ethnic group under Soshangane (Newitt 2005). This group refused the rule of Shaka thus they were pushed northward towards northern South Africa, Zimbabwe, Mozambique, Malawi, Zambia and Tanzania where the descendances are inhabiting up to today.

The Ndebele on the other hand, were mainly Zulu tribe from South Africa, whose leader, Mzilikazi fled from King Shaka's rule almost at the same time with Soshangane. isiNdebele language is like Zulu and there are a lot of cultural similarities between the two groups. Most of the Ndebele settled in the western Zimbabwe from where their descendances were moved by the colonial regime and settled in the Sengwe area. The Shona tribe which weas part of the Munhumutapa kingdom which formed the greater part of present-day Zimbabwe, mainly left the Great Zimbabwe area to look for better hunting grounds southward. The Shona tribe settled in the area at the beginning of the 11th century (Lafon 1994). Currently, the Shona group in Sengwe consists of Ndau, Karanga and venda dialects.

It is important to note that this complex history and culture is what we found in this Sengwe area where the three ethnic groups are settled. Coupled with current disgruntlements due to political and developmental neglect by the current government, there was likely another layer of complexity in the study of human-wildlife conflicts in the area.

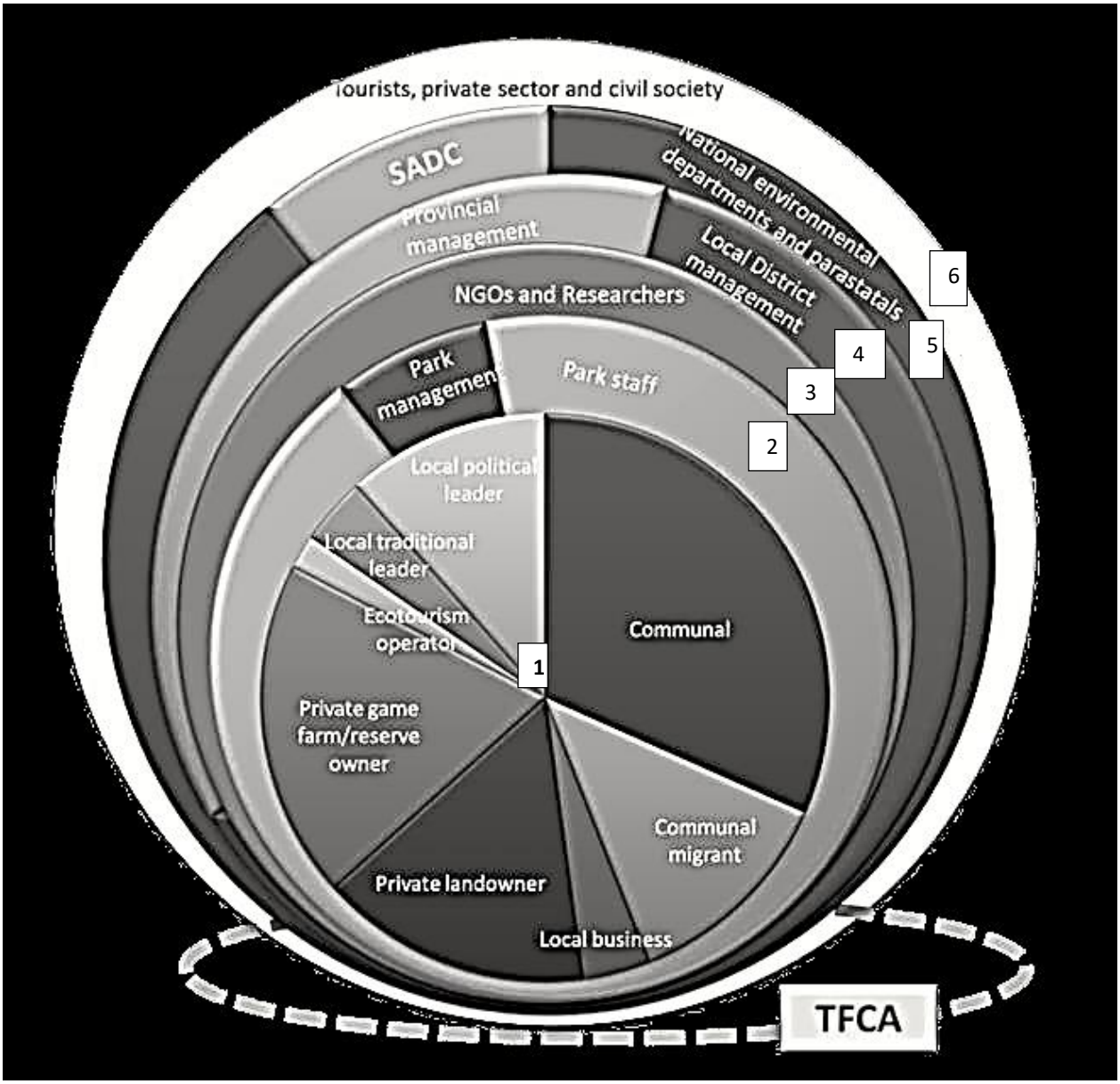
Two facts about the community are particularly pertinent to this study: the Sengwe community is mainly located along the Sengwe corridor of the GLTFCA, i.e., between the Kruger and Gonarezhou National Parks (Dzingirai, 2004); and the Chitsa community reclaimed their historical land through an 'invasion' of the north-western Gonarezhou National Park in the year 2000 (Mombeshora and Le Bel 2008). The Sengwe-Tshipise

corridor is an area that was set aside to allow the movement of wildlife between Kruger national park and Gonarezhou national park. This area has always been used by wildlife as part of their home ranges.

Headmen Chitsa and his people wanted to return to their historical home, and thus used political power by siding themselves with influential ZANU PF officials (in exchange of votes) and reclaiming part of the Gonarezhou National Park by proposing a '*wildlife land reform*' on a 20km stretch of the boundary (Murombedzi and le Bel 2008). Since the land occupations in 2000, there has been a protracted conflict between Gonarezhou National Park and the Chitsa people; the former tried and failed to evict the latter from the park (Ibid). Many strategies failed to evict the Chitsa people – even when they were offered a bigger tract of more fertile land elsewhere, they maintained that they would stay in the park. Wolmer *et al*. (2004) indicated that the Chitsa settlers had already lobbied the government and had been granted 'appropriate authority status' in 2003, which allowed them to benefit from the wildlife according to the CAMPFIRE stipulations. The Chitsa community, led by Headmen Chitsa therefore extended their collective community ranch a further 8km into the park for commercial hunting purposes (Ibid). Moreover, they are pushing for the formalisation of co-management of the national park so that they can fully participate in its governance (Bhatasara *et al*. 2013). Under the Zimbabwean law it would not have been possible to successfully resettle in a national park in this way without a strong connection to the ruling party, ZANU (PF).

1.2.5 Institutional and Organisational Arrangements in the GLTFCA

The institutional arrangements in the GLTCA are highly linked to the livelihood dynamics. An old view that users of the '*commons*' can also find ways to organize themselves so as to create rules that specify rights and duties of participants in order to harvest the resource units sustainably (Ostrom and Ostrom 1977). Many institutions have often only gotten involved in the complex debate related to nature conservation as a survival mechanism – if they hadn't, they would be defunct. The diagrammatic presentation in Figure3 below – as adopted from Berkes (2007) – presents the many institutions within the GLTCA).



Key

1- CAMPFIRE committees, Commercial Farmers Union, ZANU PF district leadership, war veterans association, Business Associations, traditional leadership, Councillors, cognitive institutions, Safari Hunting companies

2- Government departments (Ecologists, TCFA representatives, Park Rangers, Police Rural District Council officials)

3- Researchers (Bio-Hub, AHEAD, CASS, individuals) and NGOs (CESVI, ZELA,

4- Provincial Governor, Administrator, JOC,

5- SADC committee on Natural resource governance, ZIMPARKs, Forest Company (FC), Environmental Management Agency (EMA)

6- Safari Club International, WWF, PPF, IUCN, World Bank, FZS, GTZ

Figure 3 *Stakeholder in the GLTFCA on the Zimbabwean Side (Sources; Diagramme adopted from Berkes (2007) without permission Key from various sources including, Mombeshora 2008, Murombedzi 2003, Gandiwa et al. 2013, Bhatasara et al. 2013).*

The pie chart shows the distribution of different institutions and organisations in the running of GLTFCA according to perceived importance. Even if this did not exactly relate to decision-*making* processes, it was an indication of the time and space occupied. In the following chapters, I will determine how these interactions had an influence on human-wildlife conflicts. The diagram is not detailed enough to show all the institutions and relationships among them, but it shows the existence of major differing interests among the stakeholders. There were a lot of interactions among stakeholders, some working remotely through donations or tourism marketing strategies, which impacted both negatively and positively the day-to-day functioning of the GLTFCA. The lower dotted circle shows how these dynamics were happening within the framework of Trans-frontier conservation.

Berkes (2007) identified these stakeholders – ranging from local level ones to international organisations and loosely connected private business and tourists – and represented them through their affiliation with an array of institutions. Other scholars have identified institutions at each level as mentioned from the key to the diagram. The first circle in the chart (1) shows local-level institutions, the ones that were identified as visible in the daily lives of local communities within the GLTFCA. Political leadership in this case would include councillors in the local government and the local leadership of political parties. Mombeshora and Lebel (2008) identified the importance of local traditional leadership and safari operators in the day-to-day community functioning within the relevant area.

1.3 Methods

In this section, I will first discuss the overview of methods that I used in the field. This will be divided into detailed accounts of methodological tools, specific research circumstances and the collection procedure. This study took an ethnographic approach for the researcher to gain insight into why stakeholders in the TFCAs have up to now exerted different levels of effort for the successful implementation of the programme. In addition, a major goal of the research was to find ways in which the TFCAs can be of mutual benefit to all stakeholders.

Ethnography is an anthropological interpretive research design that emphasizes that a research phenomenon must be studied within the context of its respective culture. The researcher is deeply immersed in a certain culture over an extended period (eight months to two years). During my own immersion period of one and a half years, I engaged in, observed, and recorded the daily life activities of the studied community. Data was collected primarily via observational techniques, formal and informal interaction with participants. Ethnographers emphasise the perspective of those being studied (Russel 2006). It is neither a strictly qualitative nor quantitative research approach, because ethnographers often find themselves using both, as I did (Fig 4).

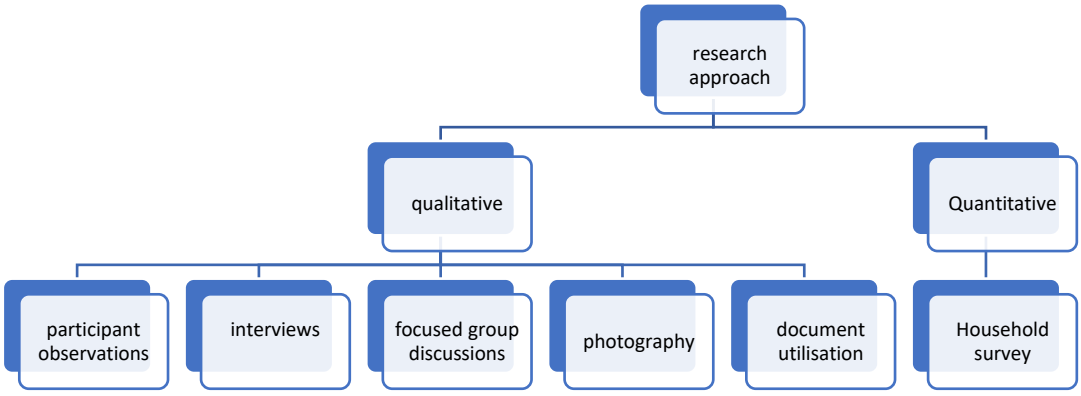


Figure 4 *Research tools*

Though ethnographers rely on qualitative research tools more than quantitative tools, a combination of both methodologies was ideal for this study. However, my quantitative data was collected at the end of my ethnographic stay for me to be able to identify gaps that can most easily be covered by surveys; it also enabled a quick summary of my data.

To start with, a qualitative approach was used in the study to help capture the various interests of actors and understand how these in turn affected the future of the study. The approach helped to gain full access to divergent trends in interests, to illuminate the specific, and to identify phenomena through which they are perceived by different actors. It was powerful in allowing me as researcher to understand subjective experience as well as other people's motivations; for this reason, it has been used in various natural resource management studies. Phenomenological approaches aim to discover some of the underlying structures of experience through intensive study of individual cases (Extended case study approach).

1.3.1 Qualitative Tools

The informants were all requested to answer a range of questions for me to document demographic and other specific quantitative data. (Bernard 2006). Each ward in Zimbabwe usually has lists of households that are used by the government for food and farming inputs distribution purposes. CAMPFIRE beneficiaries, among others, are going to be used as sampling frames. The lists were updated frequently and are usually reliable source of data in that regard. Respondents for the survey was selected randomly. Qualitative data will be analysed through thematic analysis, which is a qualitative analytic method of identifying, analysing and reporting patterns within data (Braun and Clarke 2006). Main themes arising from the data are organised for simplification and presentation. This method of analysis uses ordinary logic to arrive at a conclusion and then summarises key features of the data generated.

Expert Interviews

Experts are individuals with technical knowledge of the subject matter. They are usually engaged with issues critically connected to the research problem. Park employees, social welfare organisation officials, TFCA country coordinators, Peace Parks Foundation officials, NGO personnel, researchers, safari operators and private game farm owners constitute the most important informants in this category. There was also a group of community members who had worked in the area for a long time and who had previous knowledge on the subject matter. They were identified via snowballing, during informant interviews, or through my own observations.

Key Informant Interviews

Key informants (KIs) were people possessing a wide understanding of the community dynamics. In this case, KIs include the two Chiefs Sengwe, Headman Samu and Ngwenyeni, politicians, village heads, elderly and other community leaders in the area, all of whom were targeted for in-depth interviews. I took care, however, not only to select a group of local elites who might have been highly biased to protect their interest but selected broadly from all sectors of the community.

Informal interviews

I conducted open-ended interviews with close to 95 members of the community who were identified and selected according to their circumstances and availability. From these group/ single individuals were selected and further observed. Throughout my field stay, additional informal interviews were conducted continuously, the number of which was too big to keep track of. Some of these interviews simply took the form of informal conversations or cell phone messages and calls.

Participant observation

In the first three and half months of my research work, I mainly took time to participate in community work and observed the community's everyday activities. In this respect, I had to introduce myself to the community leaders. Despite revealing my intentions in a two-week stay within the Sengwe community during the month of June 2016, there was need to continue establishing other contacts. I therefore frequently engaged with the community as a government civil servant and researcher over a period of 3 years. My initial plan had been to acquire a piece of land for residential purposes so that I could build a house to reside in, but ultimately, I boarded with one family in the community, sharing everything with them. This enhanced my immersion and thus added depth to my ethnography.

There are some individuals or households who had rich information pertaining to my research. I took much time to study their daily lives. I want to give a brief description of the family identified as one of my cases: it's a family of six (6) children, two (2) of them boys and four (4) are girls. The parents are both in the village, the father (Mr Mlambo) acts as a village coordinator and the mother (Mamoyo) are a proactive community member and thus well known in the community projects.

Secondary data

Secondary data was one of the major data sources for this research, especially pertaining to historical data. Official documents, archived museum collections were additional data sources. This also called for a lot of travelling to other places outside my study area, specifically to Bulawayo and Harare. In Harare, I spent a month collecting data from both

the museums and National Archives, and I frequently travelled to Bulawayo Natural History Museum.

1.3.2 Quantitative Research Tools

As the name suggests, this methodology is concerned with trying to quantify things; it asks questions such as 'how long?', 'how many?' or 'to which degree?' Quantitative methods look to quantify data and generalise results from a sample of the population of interest. They may look to measure the incidence of various views and opinions in a chosen sample, for example, or aggregate results. However, there is a wide range of literature on the case study that can be used as secondary sources of information. This was done through a thorough utilization of documents from various scholars and at times primary data from the same was borrowed. A questionnaire that was used is attached to this thesis as Annex I.

Quantitative data analysis

Data was collated using the SPSS/PASW (Version 21) statistical package. All the questionnaires that were filled in were checked for mistakes, the data re-coded and post-coded where necessary, especially on questions that had options to specify other responses. A template was created in SPSS/PAWS using codes in the questionnaire. The questionnaires were numbered, and their data was entered into the designed PASW (Version 21) template as soon as it was collected. Some filled-in questionnaires had been brought to the supervisor for verification, but a high level of confidentiality was upheld throughout. For the sake of researching households, names were kept for future reference, but remain in strict confidentiality.

1.4 Researcher circumstances and dilemmas

What should you do when the 'field' changes in between or even during one's stay? The researcher faces the decision whether to switch to a new field and recalibrate his/her research questions, or to stay in the field with all the tumult it causes to the research.? I found myself in just such a huge dilemma. My first visit was between June and September 2016, but everything[2] in Zimbabwe changed after that, to the extent that I found myself

[2] To give examples of the situation that had changed, the new government was starting to consolidate power after overthrowing former President Robert Mugabe, the community was in continuous fear and suspicion of outsiders. The economy which was not stable even before was taking a sharp downturn with the forced reintroduction of the Zimbabwean dollar.

doubting that I would be able to continue. I truly thought I wouldn't manage to go through with the research. It wasn't only my research field that was affected but also myself and my family who were part of the community being threatened by the state's random political victimisation. I knew that what I was researching was important, but my family situation rose to the top of the priority list; I needed to make sure they were safe. I abstained from doing anything further until June 2018 when I again visited my study area to continue where I had left off. Initiating the fieldwork again was not easy but with the support from friends and family I rediscovered my goals and motivation. Contacts with field assistants consisted mainly of asking for their protection. My first visit was difficult in that I had to re-establish contacts and redefine my study boundary and parameters. Chief Sengwe was my first port of entry; once I had his 'clearance' I could safely start my work[3].

1.4.1 Village and Respondent Selection

The villages were selected according to their proximity to the Gonarezhou National Park as well as their involvement in the historical CAMPFIRE projects. I found this data from local authority files and during my preliminary visit. Five (5) villages were systematically selected for the purposes of surveys and intensive interviews and participant observations. Considering the wide variety of data that I intended to obtain, traveling distances would have consumed a lot of time, forcing me to fall behind in my research schedule. The selected villages had a documented history of out-migration, nature conservation and had participated in socio-political revolutions from the colonial to the post-colonial eras.

Respondents were selected in this case randomly for the surveys but systematically for interviews primarily through the snowballing method. Snowballing has become notorious for its tendency to yield respondents who are strongly opinionated and influence the opinions of others. In my it was highly useful though for further understanding the worldview of the respective community. When I interviewed Headman Ngwenyeni, for instance, he quickly pointed out that I also had to interview Headman Samu, who shares his level of authority in the ward. The background to the issue is that it is not normal for two headmen to manage one ward. The two headmen acknowledged that they might leave out important issues in the interviews due to lack of adequate knowledge, and therefore

[3] This was although I had already been cleared by the government research authority to do research in that area.

insisted that it would be important in addition to interview their superior, the Chief – Chief Sengwe. To me it was very important to conduct such interviews with those traditional leaders, regardless of a concrete sampling method. Snowballing ultimately proved to be very important in identifying interview respondents, even with respect to issues to do with social-ecological patterns.

During my fieldwork period people were supposed to be harvesting grain '*kupurazviyo*', but the drought was so severe that there wasn't much harvesting to be done, which gave me the chance to visit households and talk to them informally.

Figure 5 *Picture of Headman Ngwenyeni and I (2019)*

Day to Day Field Programme

Most people in the community ordinarily followed the same daily routine. During the farming season, the daily programme would start at about five o'clock when people – under normal circumstances – went out to the fields. We would continue working until ten o'clock, weeding, and at some point, harvesting, then pause for food. After eating something, there was usually (about 65% of time while I was there) a meeting somewhere (village, political, food distribution, CAMPFIRE, field shows), which my host family and I attended. These would take an average of four hours to complete and when we arrived home it would be dark. We would take turns going again to the fields to try to scare away elephants, sometimes in vain. At dawn most elephants would leave the fields on their own but to prevent their return often the cooking and the meal would take place there in the fields. In

the following chapters I will reflect on how we worked, discussing topics such as gendered work division, work efficiency and output.

Table 1 summarises the time allocation of the major daily activities in the village. Fetching water consumed a significant amount of time due to the distance to the well. We had donkeys pulling scotch carts to travel 3km daily to fetch potable water, as indicated in Figure 6 below.

Figure 6 *Fetching water for the family (source: fieldwork 2019)*

Table 1. Summary of the major daily activities.

	5-10am	**10-11am**	**11-4pm**	**16-18:00hrs**	**18-20:00hrs**	**20pm– 05am**
Adult	Crop cultivation	Cooking & eating	Meetings	Cooking & eating	Preparing for night watch	Night watching for elephants
Youth	Crop cultivation	Fetching water	Herding	herding		Some will also participate in

night watching

1.4.2 Data collection experiences

Participant observation is a fascinating process with a strong potential for shifting the worldview of both the observer and those s/he is observing. Despite me doing more listening than talking, my presence among them alone was enough to affect their awareness of the world beyond their community. Traces of my presence remained among them even after my fieldwork ended, even if they are more social in nature. In my case, however, some small business affairs also continue because my host family's business of cattle fattening is believed to be so viable, I decided to invest in it as well. The decision to buy 2 cattle was to some extent motivated by the need to participate in the running of this lucrative project for the six months that I was in Sengwe, contributing to the household economy, despite not being a permanent member of the family.

Besides my research trips to the big cities, I remained in the village. Being so immersed in the community's daily life, it was sometimes a challenge to keep sight of my research goals and follow all the leads available. At several points I had to grapple with my own set of ethics and weigh them against research opportunities. For instance, I had the opportunity to cross borders into Mozambique and South Africa, which would have enriched my understanding of the people's livelihood options and community challenges, but I opted to remain in Zimbabwe for ethical reasons: mainly breaking the border laws. However, I sponsored their cross-border trips financially.

1.4.3 Choosing a research assistant

Choosing a research assistant can be as important as choosing one's informants. Fortunately, for me it was not very difficult. A research assistant was particularly important for me because of the need to understand different cultural settings and because I was covering the two different wards. Life in these areas is highly dynamic and there are many factors that influence the 'presence' of an individual. I ended up working with four research assistants due to the length of my field work: Enie Dude, Fadzayi, Pastor Chauke and Ruth Chokera. Enie was a student at the Great Zimbabwe University, studying for a degree in Education and a member of my host family. We worked together when she was on vacation

and when available. Pastor Chauke was a village head and a community member, who volunteered to work with me during my studies. He has involved in a lot of community work and was usually available when Fadzayi and Enie were committed to their own activities. Ruth is a point person for researchers from the University of Zimbabwe and resides in Chiredzi town. Because of difficulties in the transportation systems in the area she organised interviews and meetings in Chiredzi town so that we would not take a lot of time travelling. Fadzayi, a former tour guide and a local member of the community, is now unemployed. He has deep knowledge regarding human-wildlife conflicts, the community and handling research programmes, so I considered myself very fortunate to meet him, considering my PhD topic.

Planning for fieldwork is sometimes laborious, and upon arrival in the field the researcher can discover that those plans must be modified to suit an ever-changing field. The methodology will be influenced partially by the environment. In my case, situations like attending funerals or sitting together for 'beer' (*ndari*) with the elderly members of the community helped me to identify informants and other aspects of my research that I could probe further. Participant observation became my flagship methodology and informant interviews enriched my data.

Even if Zimbabwean communities are highly stratified, identifying key informants (KIs) can be complex. One might expect to obtain statistical/ authoritative or factual data high up the strata but in fact, facts are 'on the ground': from my preliminary assessment I realized that some of the community leaders are propelled to those positions due to their roles in the ruling party (ZANU PF) and thus may lack information that could be expected of them had they been elected to those positions. I had a total of 15 KIs from the villages, including tour operators, politicians, government officials, religious and cultural leaders, and game rangers.

Moving around the region

Chiredzi is one of the most remote places in the country and there are poor road connections. The situation worsened through the cyclones of 4 February 2019, followed by Cyclone Idai the following month. Accessing the two wards was very difficult during my last trip in 2019. I had to use a bus to travel the 175 kilometres, which took more than seven

hours. Manoeuvring within my study area was equally difficult, due mainly to bad roads and deep, wide rivers with bridges spaced far apart. One of my assistants – Mr Chauke – sometimes lent me his motorbike if I preferred not to go somewhere by foot. On other occasions I used a donkey-drawn scotch cart. These are the major modes of transport that are used in the area.

Figure 7. Broken bridge along Mwenezi river tributary

Reaching places required so much effort it often seemed prohibitive to my plans. There were meetings and appointments that I wanted to attend for which I had to travel longer distances (50 km) from my place of residency. This would mean taking the bus, which travels mainly at night, sleeping in the bus in order to attend morning business. Given this situation, an hour-long meeting could end up consuming a full day or more. At first, I was worried that it might be a waste of my time, until I realized that this was the reason why ethnographers plan for more time in the field. This was addressed by one elder, Mr Nyathi, who quoted a Shona proverb to me, thereby helping me to have patience and use these difficulties to gain more insight: '*kumhanya sandi kusvika*', meaning 'rushing doesn't guarantee good results.

The quandary of having money in a terrible economy

The economic environment in Zimbabwe is universally recognised as being difficult for ordinary citizens and doing fieldwork there meant I would not be spared all the nuances of that difficulty. I had received a travel grant from Artes Graduate School of Humanities Cologne, but not being free to spend that money on causes other than travel, I sometimes had to plead poverty in the face of my community's financial needs. For instance, funerals are very important in our community insofar as they expose the family's levels of poverty or wealth. I still suffer the guilt of not being able to help with burial expenses that needed to be covered in a friend's family. Likewise, people are so often unable to meet their basic needs that I struggled each time I bought something for myself, asking myself should I keep it or give it away to someone in greater need?

1.5 The structure of this dissertation

Chapter 2 outlines the theoretical framework of this study, which primarily consists of multispecies ethnography and political ecology. Human wildlife relations are described in chapter 2, through a literature review and document analysis. The following chapter focuses on social-ecological patterns and regional framework of this region of Zimbabwe, while also looking at the formation of Gonarezhou National Park, GLTFCA and displacement of citizens within the region. The history of precolonial human-wildlife interactions will be discussed in Chapter 4. Chapter 5 chronicles human attacks on wildlife, while Chapter 6 examines wildlife attacks on humans, crops and livestock. Chapter 7 highlights human adaptations and coping strategies vis-à-vis HWC at local, policy and international levels. A summary and conclusion are found in Chapter 8.

Chapter 2 Theoretical framework and State of the art.

2.0 Introduction

Theoretical framework is the driver of any social science research. The questions that arose during the formative stages of this thesis were what drives human life in a conservation landscape. Multispecies ethnography forms the framework of my study. Multispecies ethnography alone cannot help me to analyse this society but together with political ecology theory, though to a lesser extent, I would completely cover all the dynamics related to my topic. I discussed the political ecology theory as a conceptual framework, which is also important in explaining human to human interaction with respect to nature. However, I will start with discussing ethnography as a disciplinary approach to this research.

2.1 Ethnography as the main conceptual framework

Ethnography is a social science research methodology that is mainly used in anthropology to study different cultures communities. Spradley (1980) describes ethnography as the elicitation of cultural knowledge while Gumperz (1981) defines it as detailed investigation of patterns of social interaction. Sometimes ethnography is portrayed as essentially descriptive or a form of storytelling.

Hammersley and Atkinson (2007) in their book Ethnography: Principles in Practice define ethnography as a social research method which draws on a wide range of sources of information. The ethnographer participates overtly or covertly in people's daily lives for an extended period, watching what happens, listening to what is said, asking questions; and collecting whatever data are available to throw light on the issues with which he or she is concerned. It took me three months of stay to deeply immerse in it and be part of the society. Hammersley and Atkinson (1983) ascribe ethnography as the most basic form of social research that a close resemblance to routine ways in which people make sense of the world in everyday light.

The task of ethnography is to investigate some aspect of human life. This includes finding out how these people view situations they face, how they regard one another, and how they see themselves (Hammersley and Atkinson, 2007). The initial interests and questions motivating the research will be refined and perhaps even transformed, over the course of the research, and this may take a considerable amount of time.

Globalisation has necessitated remodelling of communities due to the interconnectedness therein. One cannot go and study the Tonga people without finding a person of different ethnic community there hence the results will be somehow compromised. In his study on CAMPFIRE in the north-western part of Zimbabwe, Dzingirai (2003) noted that there are Ndebele speaking people who are staying close to the communities where Tonga speaking people and the Ndebele people claimed that they need to benefit from the CAMPFIRE program. From the article, it may be difficult for ethnographic research to be conducted on how Tonga people are managing their resources since other communities are also included in the management of these natural resources. Along the Zambezi River, Tonga, Nambya, and Dombwe people have been living there for some years, and the areas are used for tourism and ethnographic research cannot bring about the true cultures of these people because the places are now infested with other tribes, that include Shona and Ndebele people.

Ethnography has to do with the ability of the ethnographer to get inside and understand communities and local actors, to comprehend local loyalties and systems of knowledge. Ethnography is now depicted as an endangered species. Ethnography is engaged in a mortal struggle with generalising perspectives, who's powerful, if unnamed proponents have allegedly decried that localised field work had its day. Englund and Leach (2000) further noted that the enemy of ethnography globalised era is 'meta-narrative modernity, which they say is somewhat an ill-defined construct, which despite their protestations to the contrary for, seems like a synonym of theory. The metropolitan meta-narrative undermines what is unique in ethnography, which is its reflexivity, which gives subjects authority in determining the context of their beliefs and practices.

2.2 Multispecies ethnography theory

Humanity is interconnected to other life forms. According to Van Dooren *et al*, (2016), all species should emerge and survive within a multispecies community i.e., they must cohabit, share spaces and depend on each other. Human life cannot form and sustain itself, and have a meaning in isolation, it is dependent on other forms of non-living things. It is this basis that ethnographers have linked human life and culture to nature. Humans according to the multispecies ethnography should be viewed in relation, to their biological and other physical circumstances (Kirksey and Helmreich, 2010).

Most conservation strategies that established conservation areas in Africa were centred on the theory that humans are not part of nature and therefore should be excluded from nature reserves through boundaries and fences (Bryne 2011). According to Parathian, *et al* (2018), one of the major challenges in the integration of biological and social perspectives in studying primates was overcoming interdisciplinary barriers. There are always 'gatekeepers' in each scientific discipline who work as barriers from developing the subject into another scientific discipline. These developments are normally deemed to compromise quality. Faced with these challenges in studying human-wildlife interaction, Parathian *et al* (2018), used an interdisciplinary "multispecies lens" in which humans are observed as part of organisms sharing spaces.

Anthropologists (e.g., Descola 1994, Ingold 2000, Kohn 2007) have often criticised the discourses that oversimplified human-nature relationships. Many ethnographic studies take place at the confluence of humans and nature, where according to Aisher and Damodaran, (2016) multispecies ethnography scholarship has become more relevant in analysing the nexus between biological, cultural and political fields. The emergence of multispecies ethnography preceded the old anthropocentric theory where nature was "good *to think about*" (Lévi-Strauss 1963) to a more detailed analysis of a more ultimate, "*contact zone*" (Haraway 2008). There are many studies, on what human life is like living on the edges of protected areas (Dzingirai, 2004), but without mentioning how equal the non-human species are important in determining both their own and human life futures. They are taken as objects not as equal life to that of humans with which they are sharing spaces.

Aisher and Damodaran (2016) pointed to the dual origins of multispecies anthropology on environmental history and Anthropocene. Whilst there were huge debates in issues of human influence on the environment which saw the publication of epic books, *Silent Spring* (1962) and *The Sea Around Us* (1951) by Rachael Carson and Howe , Anthropocene has only been looked at recently and retrospectively to understand issues of climate or rather environmental change. In multispecies ethnography, however, forces of nature, humans and their history are all present and important in the survival of both humans and nature. It came at a time when most scientific disciplinary realised the importance of working in interdisciplinary teams and breaking barriers in accordance with scientific fields through adopting cross disciplinary research and analytical methods. Multispecies theory though is

not about who is doing research or the academic discipline thereof, it is more inclined to the research environment itself, the subjects and daily interactions. Humans in this respect are deemed equal to other forms of nature. The researcher is often faced with the dilemma of providing variable human and non-human histories (Scoones 1999). But a holistic understanding of these variables reduces surprises that usually come with limited understanding of ecological systems that humans have (Holling 1993, Aisher 2007). That means humans have limited knowledge about some aspects of the environment, thus considering selves as equal to nature helps to have an objective or rather detailed analysis of issues and to consider that there are more yet to be discovered. It is to decentre humans from research narratives. Aisher and Damadaran (2016) introduced what they called place-based conservation which is based on the appreciation that various spaces are occupied by different human and non-human forcing their interactions to be different in producing a net effect on perceived conservation outputs. Thus, the multispecies ethnographic theory supports a move away from a centralised government, worse, international nature conservation policies that are divorced from a localised setting and a different ecosystem altogether but being implemented in diverse regions.

2.2.1 The Multispecies theory in local context.

At the back of my mind were questions about ecosystem, humans and their livelihoods when I started ethnographic fieldwork. This was because humans in my study area, as I observed, seemed to have been subdued by circumstances beyond their control, but also by wildlife and the changing environment. Elephants had so much power and even if they were not present when decisions were made, they frequently determined outcomes, which might be either positive or negative. In the deep analysis of human life, are nature that gives understanding of our world (van Dooren *et al* 2016). This has been used to cut barriers and use diverse bodies of knowledge in academic discussions.

Multispecies ethnography is interested in going beyond the human-animal dichotomy. It also attempts to include other forms of life including algae, fungi and plants in social analysis (Fernberg, Nelson and Hassini, 2013). Further, humans are multispecies environment themselves because of life symbiotically exist influencing each other's quality

of life[4]. According to Feinberg, Nelson and Hassini, (2013), human-animal relations scholars cannot ignore the fact that species are not independent of one another and thus cannot proliferate or prosper without influence from the other.

Animals and plants have been central to humans (Leach 1964) and ethnoecological knowledge (Conklin 1954). In ethnographic studies of animal human relations in Africa, their norms and cultural traditions that are important in the survival of both humans and nature. Totems for example were used to preserve species through placing some intrinsic value of them which also helped humans to have some sense of protection (Mavhunga 2014).

2.3 Political Ecology

Political Ecology is the study of political, economic and social factors in relation to environmental issues or topics. It combines social sciences and political economy (Peet and Watts 1996). Political ecology frequently relies on the political economy to analyse certain environmental issues (Blaikie 1985). Walker (2005) points out that even if ecology still maintains a key position in political ecology, the emphasis has now significantly focused on the politics rather than economy. Political ecology becomes a highly related theory to multispecies ethnography in the complete analysis of human and wildlife relations which would be discussed further in the section below.

'Political ecology' was first formulated by Frank Thone, 1935 in his publication, Nature Rambling: We fight for Grass. It was mainly used in Human Geography but, later (1972), anthropologists adopted it in a book by Wolf (1972) were he linked ownership and inheritance to exigencies of the local economy. Ideal conditions for the political ecology theory to be highly applicable are those costs, and benefits associated with environmental variation are distributed asymmetrically that resultantly buttresses or reduces existing social and economic inequalities (Robbins 2004). There are three key assumptions that were developed by Raymond L Bryant and Sinead Bailey which have over time worked as guiding principles. These are;-

- cost and benefits associated with environmental changes are distributed unequally,

[4] This can be understood in the context of diseases like Human Immune deficiency virus (HIV) which infected many people in my study area. Their decisions on time allocation and food choices and other preferences are also influenced by the virus that lives in them.

- the unequal distribution magnifies existing social and economic inequalities, and
- power dynamics and ecological flows are affected by this unequal resource distribution.

Gandiwa *et al*, (2013) revealed that there was inequality of distribution of wildlife-based benefits in Sengwe area. the unequal distribution of resources widened social and economic classes.

There are obvious relationships between political ecology and conservation. In the context of conservation, Sutton (2004), defines political ecology as daily outcomes of negotiations that shape certain behaviour. These effects of politics affect resource use and availability. Political Ecology is a term that has been identified by scholars to sum various approaches that explain how communities or societies do not have equal say in different aspects of life.

With modern-day relations, humans and non-humans play a significant role in shaping each other's politics and economic behaviour. There are aspects of life that cannot arise and be sustained in isolation (van Doreen, *et al* 2016) but they are really determined by their environment. Organisms are interconnected and their histories and politics are highly tied together. Human knowledge is limited and lacks a proper understanding of what the actual social organisations in non-human forms.

There are scholars though (Stengers 2010, Kosek 2006) who studied the relationship between multispecies ethnography and political ecology when multiple creatures enter the "*political fray*" in (O'gden *et al* 2013). In Mozambique's Limpopo National Park, intense human wildlife conflicts have been a huge push factor causing people to be evicted from their residence in the park (Ibid). These are political dynamics that are supported by the havoc that elephants were causing to human lives, who would otherwise have not wanted to vacate the place. Elephants have some power in the struggle for land and politics of displacements in Mozambique because they influence what happens in the human decision-making processes and are normally used to justify otherwise unjust acts by people in power. This was also echoed by Kosek (2006) in New Mexico forestland studies, were forests have powers in the Hispano struggles over identity, rights and access. In this context of multispecies ethnography, scholars have revealed how other species are politically deployed in security and safety and in disposing the benefits/ assets from the weak (Sandberg 2011;

Kosek 2010; Shaw *et al* 2010; Mitchell 2002). This political ecology context in in multispecies ethnography is one example of how life is not straight forward and simple, it is sophisticated and there are chains of explanations for a single scenario.

2.5 State of the Art

This section introduces human wildlife interactions in general and details human-wildlife conflicts (HWC). The historical overview over human-wildlife relations (HWR) is important to the current perceptions and views that determine the magnitudes of human attacks on wildlife or vice versa. Gonarezhou National Park was proposed by Adam Wright[5] mainly for the conservation of elephants (Wright 1972). Even if the area was inhabited by the Gaza-Nguni (Shangaan people) (Mazarira 2009), the name Gonarezhou stemmed from Shona language meaning place of many elephants (Tavuyanago and Makwara 2011). Even Adam Wright had clearly taken one side of elephants even if there was a population of local indigenous people living in the area.

According to Madden (2004), HWC are situations where human and wildlife actions adversely affect the other. Some of the popular examples include crop-destruction, human deaths, livestock depredation and related human retaliation against wildlife encroachment (Dickman *et al* 2013). This has lately been subject to extensive research in a bid to understand the declining number of wildlife populations and to find ways in which communities being harmed by wildlife can be protected. Scholars have often portrayed a lack of participation and benefits, from conservation projects, as some of the major drivers to HWC (Marshall *et al* 2007, Bond 2015, Redpath *et al* 2014, Duffy 2000), while others have attributed the same to competition for limited spaces, (Douglas and Verissoimo 2013, Fedriani *et al* 2016). There is a growing argument amongst researchers that HWC is a term that is used by stakeholder groups to suggest deep rooted social, economic and political fractures and diverging opinions on wildlife conservation (Skogen and Krange, 2003, Redpath *et al* 2013; Pooley *et al* 2017, Hill 2015, Dickman 2010, Jani *et al* 2019). Historically, human wildlife conflicts were part of human life (Tanyanyiwa and Chikwanha 2011). Therefore, the concept of human wildlife conflicts is relatively recent in the African context (Williams *et al* 2017). HWC management and resolution techniques have been agreed upon

[5] Adam Wright was a nature conservationist in Rhodesia. We had a major interest in the preservation of elephant populations in the south-eastern part of Rhodesia.

which include controlling of wildlife population and ways to increase human tolerance to wildlife. In the context of GLTFCA, HWC can be understood in terms of history, migration, displacement and land reclamations (Matema and Andersson 2015) where politics of migration was likely to play a major role in shaping human relations.

Much research has been done on the topic of human wildlife conflict. It was my goal however, to find the underlying reasons for the perpetuation of this narrative and whether there have been possible solutions to HWC. Is there anything called HWC, or they are just Human-Human conflicts (HHC) over scarce natural resources? People don't usually consider these as conflicts but rather mismanagement of natural resources and it is the basis for conflict of interest among animal conservation groups and the communities living with wildlife. Jani *et al* (2019) argued that human-human conflicts are inherent in HWC in such a way that they are just human conflicts and wildlife would just be the resources at the centre of it. Therefore, viewing wildlife merely as resources sets them up to be just property or belonging to humans without any form of agency or power. This thesis is pointing to the political ecology of scarce resources in marginalised areas in which humans and wildlife reside and the multispecies ethnography accessions that humans are not supreme but just another species.

This thesis focused on what communities believe are the ecologies of wildlife, wildlife-livestock competition and perceptions of HWC among stakeholders in the GLTFCA. It was critical to examine the incidences of wildlife poisoning, habitat destruction and fire. Problem Animal Control (PAC) and ways in which authorities are dealing with these problems. In an endeavour to understand all these wildlife-related conflicts, it was important to simultaneously study community adaptation mechanisms and how they are dealing with HWC.

2.5.3 What are HWC?

HWC is defined by WWF Southern Africa Programme (SARPO) (2005) as interactions between humans or their livelihoods with wildlife which has resultant negative effects. These negative impacts can range from loss of life of wildlife or humans, to crop destruction or degradation of habitants. HWC were also defined on terms of human goals where wildlife impacted negatively on human goals or when humans' aspirations and activities affect

wildlife. The most important points here are that humans or wildlife are involved and resulting in negative outcomes to either humans or wildlife. These outcomes are always viewed by certain members of the human society as negative (Cline 2007). Probably, the starting point is to look at the term conflict itself and get a better understanding of what it means. A conflict according to Merram Webster is a comparative or opposing action of incompatibles; antagonistic state or action (as of divergent ideas, interests or person). There are other words that have been used in many cases to refer to conflicts, war, warfare, variance, discord, strife, among others. Conflicts have been defined by Pauline Kizgarus as a situation where incompatible activities, feeling or intentions occur together. There are different types of conflicts in general and these include interpersonal, intragroup and interorganisational conflicts (Isabu and Akinlosotu 2017).

Focussing on human wildlife conflicts, they are not so different to human conflicts. The major conflicting stakes are humans on one side and wildlife on the other side, contrary to the assertions by Jani *et al* (2019) that humans are on one side and another group of humans, advocating for wildlife, on the other. The structure or pattern that HWC takes is based on the values, interest and beliefs of the one who is researching on them. Looking at it from the IUCN World Parks Congress' point of view in Madden (2004), HWC happens when activities by wildlife "impact negatively on goals of humans or when the goals of humans negatively impact the needs of wildlife". These conflicts may result when wildlife damage crops, injure or kill domestic animals, threaten or kill people. There is a conscious antagonism between humans and wildlife on equal footing even when wildlife cannot be in the same political cycles as humans (Raik *et al* 2008). It is difficult to tell which one is the cause and effect in an intertwined and misunderstood human-wildlife setting. It is one of the main objectives of this study to separate these.

Wrong understandings have often led to incorrect adaption measures that did not stop HWC. In the face of all these challenges, another school of thought had been to understand HWC from a cause-and-effect point of view. Questions that arise include what causes HWC? Where did they come from? That is a historical background.

Lewa *et al* (2017) identified the following as root causes of HWC

1. Human population growth

2. Distance between households and conservation areas
3. Land use and cover transformation
4. Species habitat loss and degradation
5. Forest fragmentations
6. Infrastructure development
7. Increased access to nature reserves
8. Competitive exclusion of wild herbivores
9. Increasing livestock number.
10. Increasing wildlife population
11. Environmental changes
12. Poor management of places by conservation authorities
13. Unemployment, poverty, influx of people (migration)
14. Ignorance
15. Cultural beliefs

Human population growth and settlement expansion

According to IUCN (World Park Congress 2003), human population growth and resultant settlement extensions have caused humans to encroach into or reduce wildlife habitats. In African states, a history of unequal distribution of population and imbalances related to classes has resulted in some population to settle in areas that would otherwise have been reserved for wildlife. In semi- arid and arid African countries, which are highly dependent on agro-based primary production, settlement expansion is also associated with the expansion of farming land which often progressively extends into wildlife areas which are usually seen as idle. This has pressurised wildlife populations, especially on patch conservation areas, resulting in escalations of conflict between humans and wildlife (Siex and Struhsaker, 1999). In the African context, most of the conflicts happen within the rural areas. Of course, this thesis has a basis in the rural areas. According to The World Bank (2019), Zimbabwe's human population is growing at an average rate of 1.42 % per year and it is higher in marginal areas, where humans depend more on primary products of the natural environment like non-timber forests products, farming lands and small-scale mining ventures. The population in GLTFCA is expanding into the National Park. At the current rate

of human population growth, more wildlife and their habitants would be threatened to extinction or population decline. In the process visible signs of HWC will be detected. Related to human population growth, are land use changes that significantly change resource availability for wildlife (Lewa *et al* 2017).

In Zimbabwe, the major land use changes occurred when land was redistributed from a few farmers to many small-scale farmers from year 1999 in the framework of the so-called fast track land reform programme. It was during this programme that private game farms and part of Gonarezhou National Park were grabbed by local farmers. Land that was mainly reserved for wildlife and livestock was converted to cropped fields and settlements. The major purpose of this land reform programme as I have discussed in chapter 1 is arguably relieving population pressure and historical land imbalances. Land use changes rapidly lead to encroachment into wildlife habitats, reducing wildlife home ranges and blocking corridors. Increased frequency of fatal HWC is highly related to these encroachments and settlements in historical wildlife areas. Wildlife does not target humans but naturally must defend themselves and protect their interests. My interest is to know how changing land use in Sengwe had resulted in the increased HWC.

Increase in wildlife population in GLTFCA is recorded in the Zimbabwe National Elephant management Plan (2015-2020). Wildlife can put pressure on the environment and expand its home range to human settlements. Gonarezhou National Park which was named as a place for elephants (Wright 1972) has one of the fastest growing elephant populations in Zimbabwe. Currently there are 11000 elephants. Their number has been growing at 2% per year over a period of 20 years (ZimParks 2020)[6]. This is not reflecting population increases to other species. A huge number of elephants has negative effects on the feeding and water available to other species. Huge elephant numbers are likely to push other species to the fringes of the conservation area or to those areas that are too close to human activities or settlements thus creating new frontier for HWC. Elephants themselves have started to push humans living on the edges of GNP because the park itself is no longer producing enough for them. This is subject of the following chapters which will discuss in detail these interactions. Some of the species whose population have been on the increase are quelea birds deemed notorious in small grain farming ventures in Chiredzi district. The frequency of human

[6] www.zimparks.co.zw

elephant conflicts in many cases has resulted in the assumption that when people are talking of HWC, they are talking about, human elephant conflicts. The other species that seem to proliferate in wildlife frontiers are baboons which are constantly in conflict with humans. In this area, humans are in constant conflicts with elephants although carnivores are also a problem. In this thesis I therefore focused on elephants.

Poor wildlife management by authorities

According to Lewa *et al* (2017) the major cause of HWC is poor wildlife management strategies by conservation authorities. Effective management would ensure human encroachment in conservation areas are limited and quick responses in cases of frequent wildlife in human settlements are guaranteed. In the case of Zimbabwe, the ZimParks have failed to maintain enough water sources within the Parks resulting in the animals at times competing with humans and livestock outside the parks. In other countries, like South Africa and Botswana, game fences are highly visible and human wildlife frontiers are separated by buffer zones. These buffer zones can be private game farms and forest reserves. Buffer zone ideas would safeguard the interest of humans and those of wildlife, at the same time creating another layer of tourism that benefited private game farm owners.

Environmental changes and species habitat loss

The environment is changing. Over the last two decades, global temperatures have been increasing by more than 1ºC margin (IPCC 2014). This change in temperature has caused changes in rainfall patterns. Frequency of droughts and their magnitudes, especially in semi-arid to arid areas has increased. One of the major challenges associated with global warming is that it results in the perpetual extreme conditions and new phenomenon. Dry areas become drier while wet areas become wetter and the polar ice melting at high rates, at the same time there are huge average temperature increment in the tropical regions.

Some of the poaching gangs have mainly been local hunters, living close to conservation areas. They are looking for alternative food sources in the face of failing agriculture. Environmental changes are blamed for the frequency of drought-related famines in Zimbabwe's semi-arid regions. These have forced local communities to supplement daily meals with non-timber forest products (NTFP) and specifically bush meat. These NTFP also

include various forms of wildlife meat which would be available. According to the IPCC report in March 2014, with the increase in temperature, these poor communities who rely on rain fed agriculture must find alternative ways of survival.

Unemployment, poverty and migration

Unemployment rates or rather the number of economically inactive people put pressure on natural resources especially in these wildlife zones. In this case unemployment rate is directly correlated to number of human attacks on wildlife. Related to this is poverty, which also forces humans to rely on wildlife products for food or other basic survival requirements. According to Lewa *et al* (2017), poverty reduces the ability to protect themselves, crops or livestock from wildlife, increasing the vulnerability to further attacks. Those households which are dependent on a single livelihood source are more likely to suffer from wildlife invading their crop fields. Hanson *et al* (2009) explained how forced migration due to Rwandan genocide in 1994 forced migrants to settle in Virungu National Park. This created huge tensions between conservation efforts and the need to survive and coping with war. The overall impact of the unemployment, poverty and migration is the reduction of livelihood choices resulting in much dependence on primary products of the environment such as wildlife. the more the decline in community's economic status the closer they compete with wildlife for space and food.

Interesting relationships between humans and wildlife exists throughout all economic classes. The above argument is sometimes contradictory to the view that, rich people are driving more wildlife to extinction through sophisticated poaching strategies and annexing of huge tracts of land. This reduces wildlife habitats and forces them to live in competition with poor members of the human society.

2.5.3 The history of Human wildlife conflicts

The first question one would ask is where did the term HWC came from? There has been a history of antagonisms between humans and wildlife but only in year 2003 did IUCN defined and acknowledged this phenomenon. Most languages in Zimbabwe, Shona, Ndebele, Venda and Ndau not have a term to resemble HWC. It is still academic and foreign not suggesting the non-existence of such but rather a different view of perspective to it. It is interesting to

find how the term HWC evolved and how human and wildlife activities were conflicting in the past. Whether the outcomes were conflicting in the past. I decided to focus on HWC in terms of short historical periods, game movement precolonial, colonial and post-colonial periods. According to Nyhus (2016), human history is "fundamentally a story of human interactions with wildlife. However, Treves and Palmqvist (2007) suggested that HWI during these periods yielded positive results such as vigilance and intelligence to subdue wildlife. Wildlife had a positive contribution to human history.

Earliest historical records suggested human and wildlife interactions through rock paintings, folk tales and oral historical recordings. Paintings were found throughout all continents and humans showed some efforts to protect themselves from or fight against wildlife. Some of the paintings showed human hunting skills and their role as "super predators" (Guthrie 2005). Human empires developed ways to eradicate wildlife especially those predators that posed a danger to human lives (Conover 2002). In most continents, predator species were more likely to go extinct than other vertebrates which were viewed as possible food sources. Herbivores were more likely to be protected and sustainable populations were inherited even after the 20th century.

2.5.4 Do rock paintings as depict HWC?

Rock art shows a history of men and wildlife, humans subduing wildlife. Fig 8 below shows that one rock painting found in Zimbabwe's Matobo National Park which is about 450km from Gonarezhou National Park. I chose these three because of their clear message of human hunting or chasing wildlife. Rock painting are found in many places in Zimbabwe, including GNP.

Figure 8 *Pictures taken by one of my assistants, Mr. Chauke, (2019) in Matobo Hills*

In my thesis, humans' attacks on wildlife are some of the questions I discussed. In the first picture a group of hunters are surrounding a giraffe. They have weapons and they seem to have subdued the isolated animal. In the view of current of conservationists, this was violence against animals, which fits in the definition of HWC. The picture show humans chasing wildlife as pointed by the 2 arrows. Again, it seems as if it was a hunting set up. The most important thing that humans would do in these days against predators was to poison them. The painting is depicting a certain picture of what these inhabitants wanted people to know. The question is what kind of relationship did people have beyond hunting?

2.5.5 HWC during the Fortress conservation period

Fortress conservation (protected area) was first implemented or rather recorded in the United States of America as early as 1864 when the Yosemite National Park was established and Yellowstone national Park in 1872 (Adams 2007). The idea that humans must be separated from wildlife was believed to be the only way in which wildlife would be served from local hunters and preserving "Royal" hunting areas for the few elites. Royal game was not only a western idea as purported by Adams (2007) but King Shaka of the Zulu Kingdom in South Africa, who reigned between year 1787 and 1828 established the Hluhluwe Umfolozi Conservation Area. The idea of excluding humans from wildlife areas was well

accepted from these times and national parks or specialised population area grew exponentially. Vast conservation areas were established around the world but that was the beginning of yet another struggle between conservation authorities and local communities, who in most cases were displaced from their original areas of settlement. It was this shift that crated the proprietor or poacher and authorised hunter (usually referred to as the professional hunter). Unfortunately, in the African context, it coincided with colonialism and racially selective governance which caused local communities to resist and "retaliate" all these conservation efforts.

According to Adams (2007) and Neumann (1998), this was the beginning of a new phase in human wildlife relations and the two (2) groups were separated by fences or very high fines and imprisonment. In Zimbabwe, fortress conservation left thirteen percent (13%) of the total land space to nature conservation at present (Chibememe *et al* 2014). In year 1930, it was a bit different, most of the land (fifty one percent 51%) was given to Europeans (Table 2) (Palmer 1977). The unassigned land included some nature reserves, state reserve and public infrastructure outside European land.

Table 2 Colonial land distribution in Zimbabwe (officially designated in the Land Apportionment Act of 1930)

Category	Acres	% of the country
European Areas	49,149,174	51
Native Reserves	21,127,040	22
Unassigned areas	17,793,300	18.5
Native purchase areas	7,464,566	7.8
Forestry areas	590,500	0.6
Undetermined areas	88,540	0.1
Total	**96,213,120**	**100**

Source: R. Palmer (1977)

My study focused on how this history have impacts on HWC along the edges of the current conservation areas. This is also critical in Sengwe area where people believe wildlife are allowed to roam in areas where they were supposed to be settled and pursue their livelihoods.

2.5.6 Human Wildlife Relations in the Community Based Conservation Phase

Increased poaching, a decline in wildlife population, habitat destruction and massive local extinctions during the fortress conservation era led conservationists to look at alternative strategies that would improve wildlife status (Gandiwa *et al* 2013). Involving the community through financial and other material benefits to have a reason to tolerate wildlife. There was a general hypothesis that CAMPFIRE success would result in positive perceptions by communities towards wildlife thus impacting positively on the frequency of HWC (Matema and Andersson 2015). CAMPFIRE was advantageous only if benefits accrued to local communities (Dzingirai 1995, Bromley and Cornea 1989; Berkes and Farvar 1989: 3; Murphree 1991). Human weaknesses, mainly failure to distribute benefits equally among the local community members was blamed for persistent negative attitudes towards wildlife (Matema and Anderson 2015). HWC cases increased again even in the CAMPFIRE districts, this time, due to unfulfilled promises of and lack of transparency in the distribution of financial resources. In this thesis, I will discuss Community-Based Conservation with respect to local livelihoods and as a coping strategy to HWC.

CHAPTER 3

Regional Framework: History of the region and social ecological patterns

3.1 INTRODUCTION

Trans-frontier Conservation is one of the major conservation programmes in Southern Africa (Bhatasara *et al*. 2013), through which the member states have managed to unite their management programmes (IUCN 2004). It is considered to possess a huge capacity to conserve natural resources while at the same time providing opportunities for sustainable tourism and other non-agricultural livelihoods to the local communities (Chiutsi 2014). Provisions of livelihood opportunities through tourism (Spierenburg *et al*. 2008) was one of the major justifications for the formation of Trans Frontier Conservation in Southern Africa (Peace Parks Foundation, 2003). Scholars related all livelihood strategies in the GLTFCA to tourism (Munthali 2007, Gandiwa *et al*. 2013) even though the consensus is that tourism is not among the most important strategies. Livelihoods in Zimbabwe are diverse and income sources include remittances, social reciprocity, and agricultural production, among others (Chiutsi 2014). In the rural community the word livelihood is widely referred to by development programmes and governmental agents as a means of making a living (FAO 2007). In this respect they are activities, assets, capabilities, income and anything else required to secure the necessities of life. Living on the edges of GNP has provided the locals with unique opportunities as well as challenges that can only be understood in the context of their circumstances. Livelihoods can be sustainable when they can cope with and recover from stress and shocks (Chambers and Cauway 1992).

Generally, Zimbabwe is believed to be an agriculture-based economy, which produces a variety of food and cash crops that account for 18% of the GDP. Other forms of rural livelihoods are mining, small-scale business ventures, and part-time jobs within their communities. Tourism contributes about 6.3% to Zimbabwe's GDP but there was no data on how tourism contributes to rural household economies.

Rural livelihoods are some of the most important variables in the conservation of natural resources. Competition for space and time between livelihood and conservation interests is usually critical. My question in tackling this issue was: how has Trans Frontier Conservation

affected rural livelihood dynamics, especially in Zimbabwe's economically unstable situation? In this chapter I will describe my findings with respect to livelihood options in the Sengwe area of Chiredzi district. It is also in this chapter that I will discuss how the livelihood options compete with or complement the need to conserve natural resources. The challenges associated with living on the 'edge' and pursuing limited options to earn a living, viewed in the context of the conservation of natural resources, will be a focus in this chapter. Data was mainly gleaned using qualitative approaches such as participant observation and both formal and informal interviews with the local people who have been living in this community for a long time. However, the questionnaire that was administered also added some numerical data that proved useful.

The south-eastern 'lowveld' of Zimbabwe has a regional history of migration, displacements and colonial forced settlements (keeps), and protected villages. These activities were caused by regional migration of the Nguni wars in South Africa, in the 19th century, as well as the establishment of native reserves and commercial farms. Tavuyanago (2017) indicates that the Shangaan speaking people had historically settled at the confluence of the Save and Runde rivers around year 1821. Various authors have written about how the Shangaan people were forced out of Gonarezhou to the districts of Chiredzi, Beitbridge and Chipinge. There is also a history of migration from land claims in Gonarezhou during the post colonization periods. The literature reveals that the Sengwe peoples are composed of Karanga, Venda, Pfumbi, Shangaan and Ndebele (Mukamuri *et al* 2003). According to Tavuyanago (2017), some of the people currently settled in Sengwe relocated from Filabusi, another district in the Matabeleland region of Zimbabwe. This group of people speaks Ndebele, a dialect of Zulu language of South Africa. The Makuleke people in northern South Africa reclaimed their land from Kruger National Park in 2000 and the Chitsa community grabbed their land in Gonarezhou National Park in 1998 (Steenkamp 2000).

The Gonarezhou National Park's current settlements and their history of displacement is pertinent to this research because of how it shapes some of the activities and management options in the GLTFCA. Land claims, resettlements and conflicts are thereof going to be extensively discussed based mainly on the interviews, secondary data and participant observation.

3.2 Formation of Gonarezhou National Park and resettlement of people

When the Shangaan occupied this south-eastern part of Zimbabwe, they joined the Ndau, Tsonga, Ronga, Chopi, Hlengwe and Tswa clans who were occupying the area before them. Gonarezhou National Park was announced as a national park in 1934, but it was not implemented officially until around the 1950s. This period resulted in the displacement of people as shown on the map below (Fig 9). The Shangaan people were moved to pave way for the reestablishment of the park in 1968. When they were forced out, they moved in all directions, throughout Zimbabwe, but also into Mozambique and South Africa. It is important to note that there are no records pertaining to the size of the displaced population.

According to Headman Ngwenyeni,

> "*it was during the formation of the park that we were displaced from our fertile land in the Save-Runde Valley. Of course, I wasn't yet born but my father told me that the park authorities, who were white colonialists, came with trucks and tractors and loaded everyone [onto them]. It didn't matter [to them] if you got separated from some of your close relatives, they were all forced out of the park. Some of them, however, escaped and went to settle in vacant spaces in Mozambique instead.*"

It is notable that he knew exactly where his grandparents had settled before being displaced. It was fresh in his memory, and he recounted a good deal of what had transpired as if he had personally witnessed the displacement.

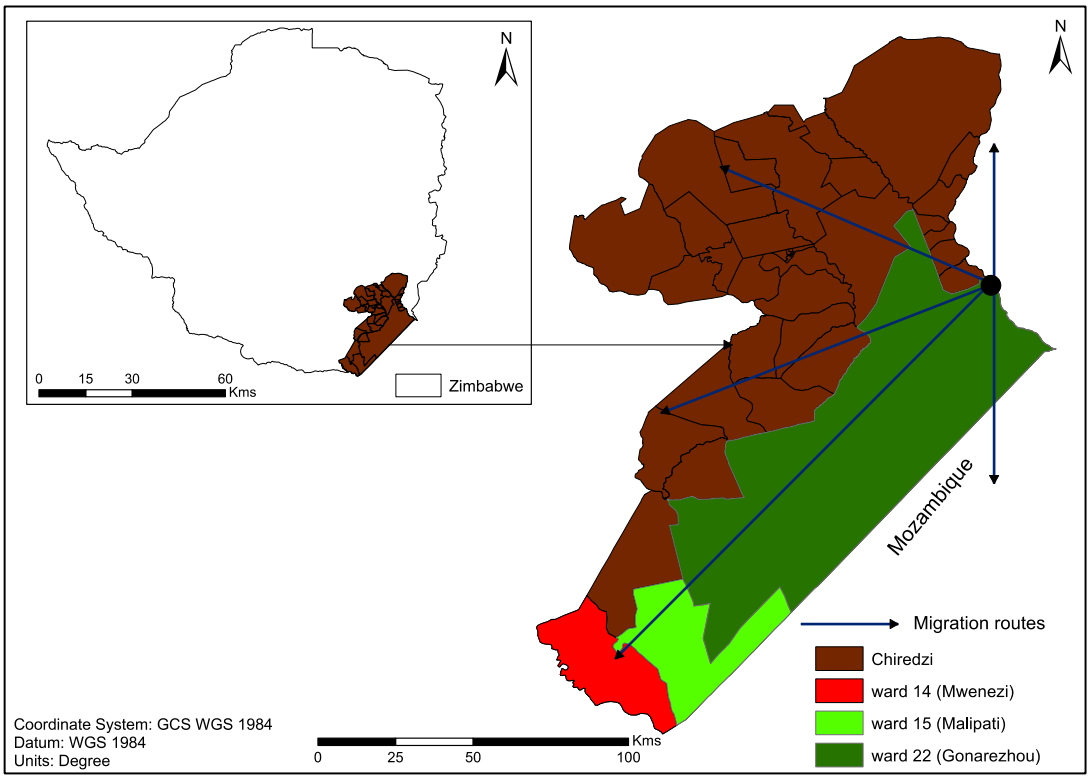


Figure 9. ***Map showing how people were displaced from GNP.***

According to Headman Ngwenyeni's assistant, Chauke, the headmen and his people (about 1000 people from four villages) arrived in Ward 15 in 1954 and settled in places that were already inhabited. Fortunately, the inhabitants were mainly of the Shangaan tribe, which made the cohabitation easier. However, some of the displaced settled in different localities of Chiredzi district that include Chitsa, Sangwa, Matibi and Chikombedzi areas. In Sengwe, Headmen Ngwenyeni was given the mandate by Chief Sengwe to lead only the four villages that he had migrated with against headmen Samu's 55 villages[7].

Headman Ngwenyeni believes that they had a chieftainship before the displacement, thus they were demoted to a headman by what they believed was the colonial hand. The resettlement programme during this time has been attributed by respondents to unjustified colonial rule, which was meant to deprive them of their fertile land and force them to work in the settlers' mines, farms and new industries. This was when the local communities truly began feeling the heavy impact of the Rhodesian (now Zimbabwe) government's colonial rule.

[7] Headman Samu is another traditional leader at the same level as Headman Ngwenyeni.

My survey data indicates that 23% of my respondents had a migrant background, 76% of the migrants were of the Shangaan tribe who migrated from Save Runde River Confluence in the 1950s to pave way for the establishment of Gonarezhou National Park. This confirms the archival data that show that most of the people displaced from the Gonarezhou National Park were of the Shangaan tribe. The same survey established that people were still labelled as migrants even if they were of the same tribe. It was not ethnicity that identified individuals in this community, but the moment one arrived in the area[8]. Generally, this area was not good for human settlement, it was only due to violence or other circumstances that most people ended up there. The GNP displacement process was still clear in many elderly people's memories; they remembered and could identify their previous houses. People believed that since the liberation war was over, it was time to go back to where they came from, but they were met with yet another source of disappointment: the government is not willing to allow land reclaims.

Informants indicated that the arrival of the Shangaan people during this period had little impact on the existing population in the area, which was significantly low and consisted in large part of the same Shangaan and Venda speaking people. Another Headman Samu reported that

> "*When the migrants arrived in the 1950s, they were allowed to settle not only because the area was so sparsely populated and there were others of the same tribe, but because the colonial regime imposed the situation on the traditional leaders of the time, who could do little than just accept. You have to note that during that time powers were being removed from the traditional leadership and were being given to the state.*" Fieldwork 2019.

Even though they spoke the same language, there was discrimination against newcomers. Headman Samu's sentiments resonated with other traditional leaders that the forced migrants were undermining the local cultural wellbeing. My observation is that this was

[8] It is worth noting that this place was not occupied before the start of the 20th century.

common among the leadership when there were financial benefits to be gained; otherwise, there was harmony with the heterogeneous community.

Population distribution

My fieldwork data established that 70.5 of the local population are of the Shangaan tribe (Table 3). The Shona (Karanga) tribe is the second largest population, constituting 16%, but the most dominant languages are Shangaan and Ndebele.

Table 3 Languages spoken in Sengwe (Own data)

Ethnic group	Shangaan	Shona	Ndebele	Ndau	Venda
% Population	70.5	16	7.5	2	4
Population numbers	4970	1600	528	141	282

3.2 Ndebele forced migration from Filabusi

Filabusi is a rural district in Matabeleland South, which is about 405km from Sengwe but only 96km from Bulawayo, Zimbabwe's second largest city. According to archival data, Filabusi has huge deposits of alluvial gold, the mining of which forms the biggest form of livelihood besides agriculture. During the same period when people were displaced from GNP, the colonial regime forced the Ndebele people to migrate from the Filabusi district in Matabeleland South. They were driven to Sengwe (mainly to Ward 15) and in 1961 the Ndebele arrived in Sengwe area, occupying the same space as the Shangaan, Shona and Venda. There has been a history of migration in this region, thereby making it one of the most diverse areas in the country. Displacements were equally disastrous with the way people were then settled, since most of the people were forced to live in "Keeps", namely protected villages and reserves. The economic activities that were carried out by the Ndebele people at that time were a result of forced migration, and not of their own choices. According to Mlotsha, one of my local informants,

> *"We were herders, not hunters. When we came here a lot of our people were killed by wildlife because we did not have enough experience fighting them. However, now that we are here, I think we should be allowed to benefit from CAMPFIRE just like everyone else…"*

Informants vividly remember how they were brought in lorries in what they described as 'brutal colonial' treatment. The problem with the forced cohabitation was not really the clash between cultures, but that they at first couldn't understand each other's language. Now it's better because everyone speaks Shangaan and or Shona, which are important for communication. Shona, being the widely spoken language in Zimbabwe, is a mandatory language to learn if one hopes to secure a job in other regions of the country.

3.3 Shona Displacements

In the 1960s up to the 70s there was a major policy shift that resulted in the displacements and formation of native reserves, keeps and protected villages[9] (Fig 9). These 'Keeps' were concentrated camps for 'native Africans' which were mostly enclosed in a perimeter fence and guarded by armed security personnel. This was meant to prevent Africans from joining the 'rebels'. It was also this security mechanism that enabled the colonial government to keep African nationalists and their ideologies away from the masses, thereby preventing them from polluting their minds with rebel propaganda. Rhodesia Affairs National Serviceman's Handbook (1974), reveal that Shona speaking people were removed from some parts of Gutu, Chivi, Bikita and Masvingo town to 'Keep 4' in Sengwe. This group of immigrants mainly spoke Karanga (a Shona dialect). My fieldwork data show that about 16% of the area's population have Shona tribal origins, mainly attributed to this forced migration. These keeps were not occupied solely by Karanga-speaking people but were mixed in the struggle for independence. One of their major challenges was the deprivation of livelihood options: the government resettled herders in agriculturally unproductive land, mainly in areas with abundant wildlife (which were then designated conservation areas).

[9] Keeps and villages served the same purpose of restricting movement though the former was more intense and controlled by the government

Figure 10. A Typical Keep (Source; Rhodesia Affairs National Serviceman's Handbook, 1974) according to the same handbook, these settlements ranged from 5 households to more than 100 of them. The numbers were not fixed and would increase or decrease from time to time.

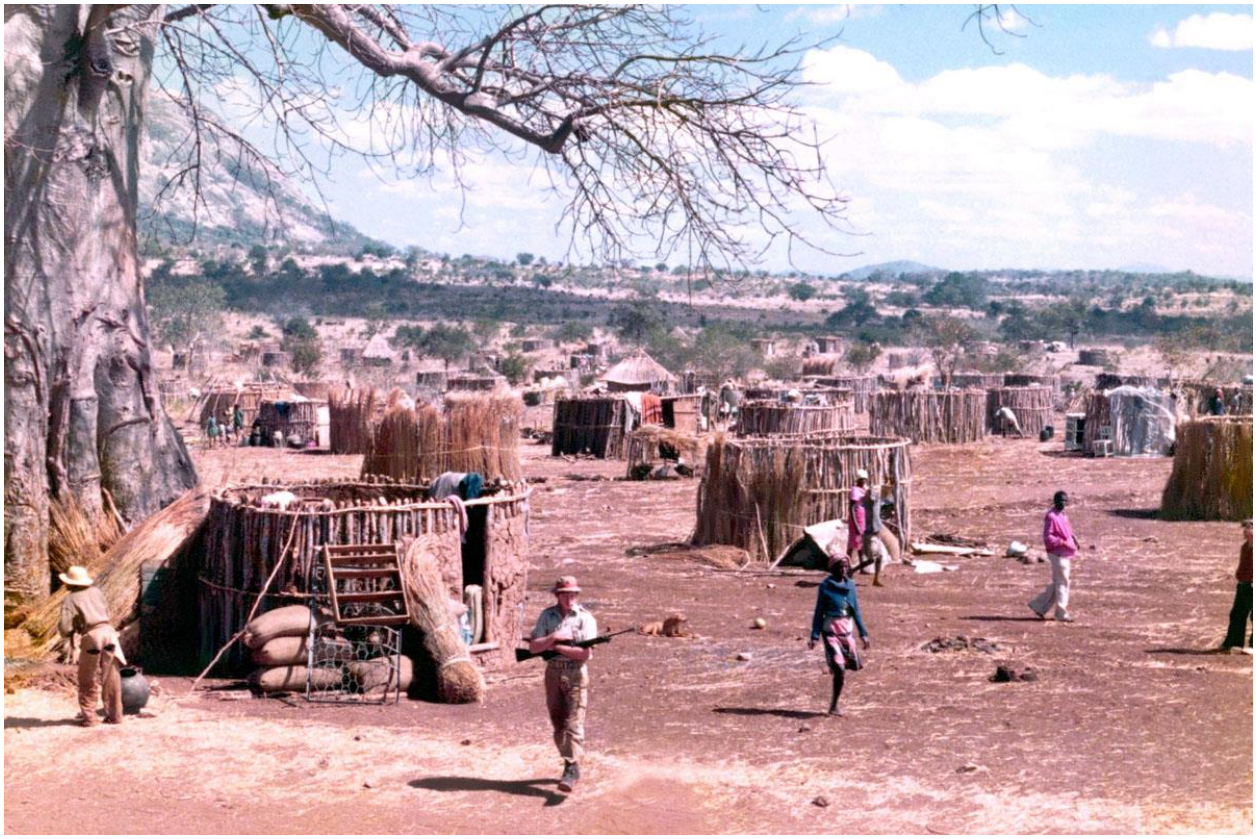


Figure 11. A protected village setup in Rhodesia (Rhodesia Affairs National Serviceman's Handbook, 1974). National Archives of Zimbabwe, Harare.

Native reserves, keeps and protected villages were not closed at independence in 1980. At independence, people were allowed some limited freedom to settle in other parts of Sengwe.

> "*We are of the Karanga tribe even though we speak Shangaan. I was told we were displaced from Gutu where our grandparents were farming – just to pave the way for a white farmer called O'Neil. During those days they could not resist, and they ended up here. We were all born here but we know where we came from – our relatives are scattered all around the country. We just hope one day we will go back to Gutu.*" -Chimombe (Fieldwork 2017).

I observed that there were, some community members who had never participated in CAMPFIRE, nor in the GLTFCA, since their inception, because they hoped that one day, they

would leave the area to return to their places of origin. If that was not the reason, they were excluded because of their migrant backgrounds.

3.4 Land Claims and Resettlements

The tone with the community shows how things should be done was summarized in the following, "There are more than 300 households living in Gonarezhou National Park, why can't we go back too? They resettled themselves in their ancestral lands, so can we not also do that? If it's about wildlife, I think our forefathers used to cohabit with the animals." Headman Ngwenyeni (he is of the Shangaan community).

These are common sentiments among the Shangaan speaking communities in Sengwe. This follows the land claims by Headman Chitsa and his people in 2000 in what they called '*reclaiming their land*'. Chitsa people occupied part of northern Gonarezhou National Park during the land reform programme in Zimbabwe. Shangaan respondents were well informed that their relatives on the other side of Limpopo River in South Africa, the Makuleke, reclaimed their land, which had been enclosed in Kruger National Park. The Makuleke land reclaim of year 1998 in South Africa had been highly publicized in South African media, more than the Zimbabwean ones[10]. Besides, due to kinships across the three (3) borders, information travels fast. People see the separation of Shangaan-speaking community members into different nationalities through colonial borders as a form of mistreatment.

> "*Our government is irresponsible; they know that we were displaced from those areas, but they are resettling other people who were not even affected. The liberation war was fought for us to have our land back but up to now we remain here. It never rains here; we are constantly harmed by wildlife, and we don't benefit at all from it. We should be given back our land, which is good for farming, and our cattle.*" Moyo (Fieldwork 2019).

The communities around have their historical problems that remain unsolved. It is against this background that the GLTFCA was implemented. However, when I asked what exactly

[10] Note that Sengwe people listen to South Africa radio stations due to their proximity to South Africa.

would make their lives better if resettled, most indicated that they would have better access to wildlife products. This underpinned the arguments of the national parks' officials, that settling more communities in the park would increase wildlife poaching and reduce animal welfare (Fieldwork data, 2019). The Headmen Chitsa people are the only ones who pressured the government, through unlawful land occupations, to formalize their settlements.

3.5 Discontent by local communities

Although the only violent conflicts to erupt have so far been between the Chitsa and National Parks over resettlements within the park, discontent due to marginalizing is widespread.

> "*We are still living in a 'keep', 37 years after Zimbabwe gained independence. How is that possible? I wish we had relocated to Mozambique when it was still possible. Now we are old, trampled upon by animals and ignored by our government. What shall we do?*" M. Buso, Utwekwani Village 2017

The common perception is that the economic and environmental challenges that the community is facing would have been smaller if they were resettled to their historical geographical areas. These challenges include human-wildlife conflicts, aridity and economic marginalization. "*In Gutu district, there are no elephants, but here the elephants are valued more than humans*," report Shona respondents. Identifying itself with historical imbalances has forced the government to make intermittent promises and to invite communities to dialogue on how they could benefit from resettlements – yet this is merely a form of postponing the problem. When the politicians are asked about land promises after elections, they dodge answers, advising the locals instead to register with the Ministry of Land in order to get on the waiting list. This is the government policy, but the list is not usually followed. Moreover, those who have never even been on the list sometimes get land first. This sort of corruption and lack of consistence have resulted in people losing confidence in the government. My fieldwork data indicate the presence of exclusion politics in this society – especially in leadership – because 25% of those with migration background

revealed that they were not considered in certain community programmes. Exclusion and suppression of those who have an immigrant background was used when it was 'suitable', especially when there were financial resources to be gained.

3.6 Impacts of Land Claims and Migration History on the Implementation of Conservation Policies.

The GLTFCA was formed with the idea of increasing the area of wildlife zones without interference from humans, but the continuous claims and land grabs in the area undermined the objective. With more than 7000 people now resettled in the north-western part of Gonarezhou National Park since 2000, it is hard to harmonize the management strategies in the three countries. The claims and meetings by local communities to force the government to allow them back into the park.

> *"The elephants and other animals are always here in our fields. What's the reason we need to be on this unfertile, dry area when we can easily cohabit with wildlife in the park? The government should give us our land and stop hiding behind TFCAs issues. It won't work."*

Chauke (Fieldwork data 2019).

When the GLTFCA was established, the government used it to stop further land grabs of the GNP. According to the community, it was trans frontier conservation that stopped them from benefitting from land reform. This notion is common among the respondents and forms the basis of most of their decisions. Twenty-eight per cent[11] of the survey respondents acknowledged that they had some migrant background, and of these migrants, 50% revealed that the background has brought with it more disadvantages than advantages. The impact of the migrant label on the community can be understood in the context of how local institutions function. Traditional leadership was established under the Traditional Leaders Act, which preceded this institution. The village head has the lowest rank, and reports to the headman, who is in turn subordinate to the Chief (Fig. 11). Under normal

[11] It is important to note that the government does not recognize any of the tribes as immigrants but rather people of different backgrounds.

circumstances the high office is the one that selects and delegates the lower, however, in the Traditional Leaders Act, the Chief and his subordinates are under the Ministry of Local Government, which is governed by the state minister, which implies they are not autonomous. This makes them state actors rather than traditional leaders in the cultural sense. Of course, the government justifies this limitation of traditional leadership insofar as the state allows them to represent culture and local communities in issues of legislature.

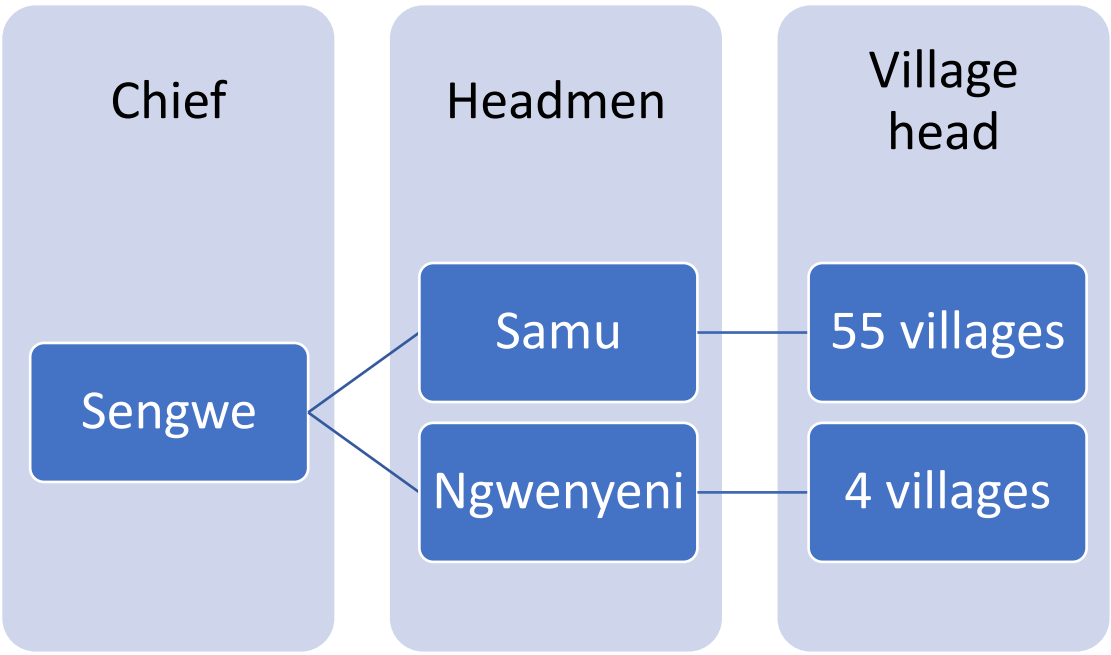


Figure 12 The hierarchy of traditional leadership

3.7 Alienation of Village Head Manzini and Ndebele people in Sengwe.

One of my interviewees, Mr Manzini, who is the village head of more than 200 villagers, indicated the presence of segregation; he suffers constant threats to his leadership from what he called "superiors" – just because he is Ndebele. This must be understood in the context that Manzini's village is composed of members who migrated from Filabusi district and about 80% of the members are originally Ndebele speaking. His leadership in this village is highly appreciated by his subjects; nonetheless, he must deal with continuous rebukes and punishments from the headmen and Chief Sengwe, who are all the Shangaan tribe. Mr Manzini is forced to perform some duties that do not feel culturally appropriate to him and his people. As soon as I asked about the disadvantages of being an immigrant in the village, he was quick to produce a letter from the headman that accused him of failing to pay

contributions to the chief as is the 'culture'. It also blamed him for undermining the chief by bringing in Ndebele cultures that are not compatible with local ones.

The letter – from my own perspective - demonstrates deep-rooted cultural differences and significant divisions in the community. These segregations are always denied by the local leadership according to the other local headman, Samu:

> *"There is no persecution; we live in harmony knowing that we all came from somewhere at some point. However, we expect people to be loyal to their traditional leaders, otherwise you will be punished or expelled from this area. We are not tribalists at all. If anyone feels that they are not being treated well, they are free to leave the area".* (Fieldwork, 2018)

At first glance the community seems very homogenous, but it became clear throughout my immersion in it that it was in fact rife with cracks and disharmony. There is ample hate and division along tribal and political lines.

Loss of Social Fabric and the role of Society in Natural Resource Governance

The value of respect (*ubuntu*)[12] is a key element to the social fabric. It was always highly important in the implementation of by-laws, local statutes and norms. In this case I found out that, cross tribal settlements and difficulties in understanding one's language has caused a decay in the respect of the elderly. Migration in Sengwe can serve as a lens offering insight into why cooperation in the GLTFCA has been problematic. The community now experiences a clash between these values and those of more urban areas. As one of the community elders says,

[12] There have been studies relating the general African Ubuntu philosophy to the new world views (Moloketi, 2009; Tutu, 2004). I have used *Ubuntu/numunhu/chivanhu* interchangeably in this research to refer to almost everything related to the indigenous practices and culture, even in relation to nature.

"They think having a pistol means you are the one who should be listened to. How do you tell them not to shoot an impala when they have seen dead people on the streets of Johannesburg daily?"

This implied that people who once migrated to South Africa were difficult to control and they brought in new values and beliefs. The blame is not on migration itself but on the cultural differences between city life and their rural lives. The issue is that the youths who might have lived in large cities in Southern Africa have a certain lack of moral values that are considered important in the rural setup. The extent of influence migration can have on a society is very clear in Sengwe. Centres of power have usually shifted because of the availability of other livelihoods and power sources. The community has usually failed to comply with directives in the GLTFCA, citing that in other countries (South Africa) they were not doing the same. The youths challenge local leadership or even threaten them for the – in their eyes inappropriate – treatment of their parents.

3.8 Current Social-Economic Patterns in Sengwe community

In this section, I focus on livelihood sources in Sengwe. Rural livelihood strategies are mainly in two categories, activities and assets[13], which form the basis economy of most of the rural households. I will start with rural activities that are important to the day-to-day survival and then discuss the household assets that are at each household's disposal.

3.8.1 Livelihood sources

Table 4 below shows two classes of livelihood sources in Sengwe communal areas and the specific items that contribute to each class. There are various levels at which each of the items contributes to the household economy, which forms the basis of this chapter.

Table 4. Livelihood sources

[13] Asset in this context is any resource of economic value to an individual or the society

Activities	Assets	
	Incomes	Physical Assets
Crop production	remittances	Land
Livestock production	Dividends	Irrigation schemes
Cross border trading		Infrastructure[14]
Tourism		Wildlife
		Livestock

Assets in the rural setting are divided into incomes and physical assets. Some of these assets (land, irrigation schemes, infrastructure, clean water and wildlife) are mainly communal, and thus, common property and ostensibly accessible to all the members of the society. They are not accessible because there is no market value for them. Water, for example, is not potable in most areas in this community.

3.8.2 Crop production activities and opportunities

Crop production is a cultural activity that farmers pursue in all seasons regardless of rainfall. The respondents indicated that even in the face of imminent crop failure due to droughts or long dry spells, they always commit their time to crop production. The table below shows the variety of crops planted in the area.

Table 5. types of crops produced.

[14] This include, commercial buildings, roads, dams and other physical

Dryland production	Irrigated produce
Finger-millets rapoko/zviyo/rukweza	Maize
Watermelons	Tomatoes
Maize	
Sorghum (mapfunde)	
Millet (mhunga)	
Round nuts (nyimo)	

Small grains (millets and sorghum) are relied upon most because of their drought resistance characteristics. They can produce even if the rainfall is not good enough for other crops like maize. As noted in the previous chapters, the Sengwe area receives very low (300 mm) annual rainfall during a short space of time, making agriculture difficult in general.

3.9 Farming programme during the growing season

Crop production in this case is done semi-extensively in hopes that the rainfall starts at the end of November when cultivation of land/ planting of crops starts and ends in June when the last crops are harvested. I observed that communities spent a lot of time doing farming-related activities, and that a major portion of those activities includes protecting their crops from wildlife (Fig 13). Protecting crops from wildlife consumes a lot of time that in other wildlife free communal areas would be spent doing more productive activities.

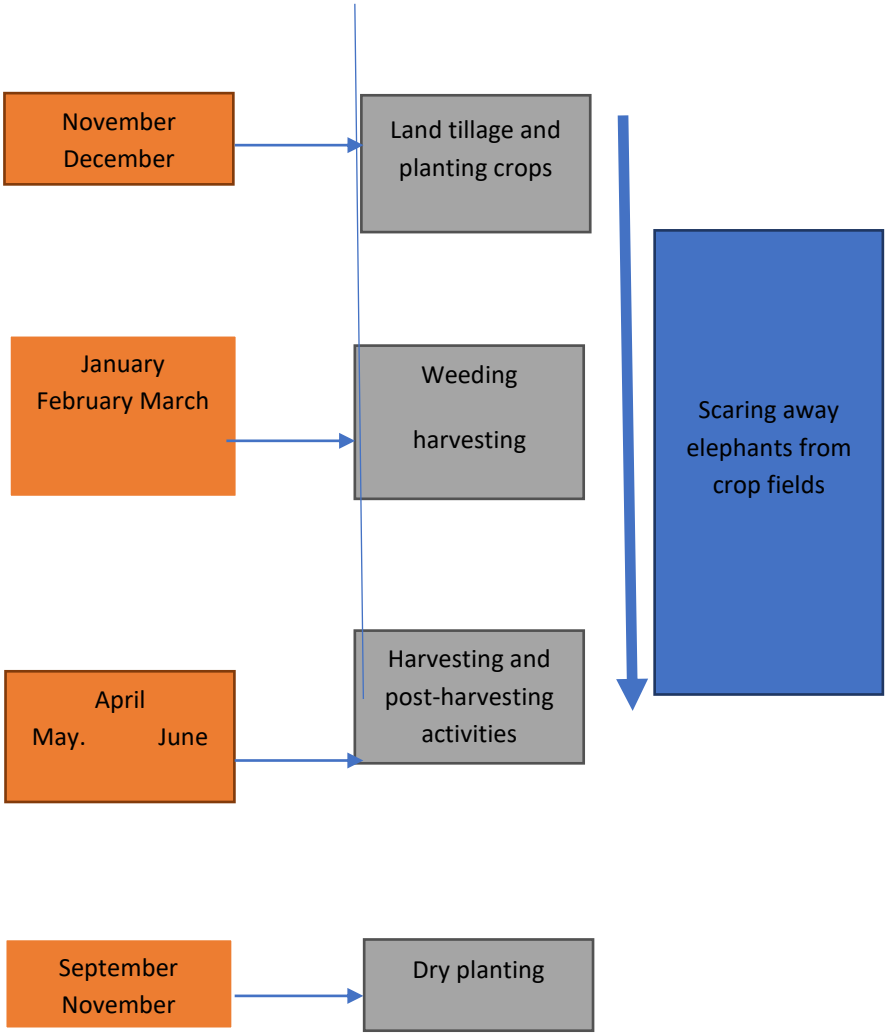


Figure 13. *Time distribution in rural farming activities throughout the year*

The data was derived through participant observation. The cropping season pattern and activities have historically changed from what respondents' thought was better for crop production. In this section I will concentrate on activities related to this form of livelihood strategy.

3.8.3 Land tillage and crop cultivation

The names of the months indicate the main activity of that period. October, for example, is called *bumharutsva*, which in Karanga means cleaning up the ashes caused by slash burning. This shows that crop cultivation is given more priority during the rainy season than other livelihood activities. One of my informants said that

> *"…we have to give all our energy to farming because it is our culture. You cannot stay at home, even if you know nothing will grow. In this community if you stay at home when others are planting their crops you are considered a lazy person and people will not be willing to help you when you need something. If it was not for these reasons people would not even bother farming…*"

This shows that people's method of coping with the threat/ risk of the possibility of low yield and destruction from wildlife is to pretend that all is well. They are willing to persist with the cultivation of crops despite the high risk of failure, as it is part of their community culture. The community would not approve if someone decided to concentrate on for example cross-border trading; people would blame you for allowing both domestic and wild animals to come to other people's fields through your uncultivated land. The whole community is usually engaged in land tillage during that time, because livestock would be roaming free on the range. However, Mr Dube of Manzini village holds farming as the priority because he produces sorghum for selling but also for sustaining his family. He says that in the previous farming season (2017/18) he had produced three tonnes of sorghum, while his family consumes only one tonne per year. His farm is in the middle of other farms, which makes it less likely to be reached by wild animals before they are scared off.

Quantitative data reveal that in a good farming year with crop fields not a limiting factor, each family produces an average of 300kg of either sorghum, millet or maize, an insufficient amount to sustain them through the year. However, even a good year's maize yield might not be able to resist the harsh heat, as shown in the figure below (Figure 14).

Figure 14. *Wilting maize crops in Ward 15 (Source, Fieldwork data March 2019)*

Preparation for land tillage starts the night before: the seeds are prepared, and a plan is made as to where to start and where to finish. The size of plot likely to be cultivated depends on the availability of farming inputs, the moisture content of the soil and the availability of livestock for draught power. In most cases, treated seeds that have high germination rates were not available. Sengwe receives less rainfall and temperatures are very high. With limited opportunities to plant in between rainy days, farmers are forced to spend the whole day, if possible, planting crops on moist days. Starting as early as 4am and sometimes running through to 6pm without a real break is also a coping strategy, among other strategies, to deal with the short and erratic rainfall.

Weeding

The process of removing unwanted plants in the crop fields involves physically removing them either with hoes or bare hands. It is highly conventional, and no chemicals are used. For crops to grow better, that is with less competition for nutrients, the farmers invest a lot of their time in this activity. The main farming activity during my stay, the months January to mid-February, was weeding. By this time of year, average temperatures are around 34^0 C

and it is usually very dry. Crops were showing visible signs of failure, but we continued to weed every day.

Harvesting and marketing

During my field stay I noticed that harvesting does not really consume a lot of time. There were fewer crops to harvest – (sorghum, millet, watermelon) than those planted – (maize, groundnuts, sorghum, millet) and the harvests were below the expected average because of low rainfall, coupled with high temperatures and high frequency of crop decimation by wildlife. Sometimes a cyclone can bring rains at the end of the season to rescue some crops. Expectations for better standards of living were based on historical capabilities of the land and wishes to have enough food to feed the family without receiving handouts. Harvested crops are sold locally through social networks. I observed that watermelons were mainly for selling, whereas the small grains are usually used for household food security or in rare cases bartered for other important items like small livestock.

3.9.1 Impact of wildlife movements on crop production

One of the major activities that farmers living on the edge of national parks undertake is dealing with risks associated with wildlife for both themselves and their crops. Dealing with wildlife demands active participation by all the members in the community. In this section I will give a brief overview of how the presence of wildlife has caused some significant activity changes for farmers. In the chapters that follow I will then detail human-wildlife conflicts associated with crop production in wildlife zones.

During the cropping season, wildlife affects the production activities differently and at different times. The table below shows the activities that are likely to be impacted.

Table 6. Wildlife in farming

Wildlife species	Cropping activity	What crops are targeted	Time period
Elephants	Germinating plants till harvesting	Millet/sorghum, watermelons, maize	Night
Baboons	Before harvesting	Maize, watermelons	Day
Quelea birds	Before harvesting	Millet/sorghum	Day
Francolin partridges	During planting and harvesting	All crops	Dawn/dusk
Wild pigs (bush pigs)	During planting	All crops	Night

Farmers want to reduce their losses and to that end, would spend a lot of time in the fields scaring away the wildlife. Their actions would range from constructing human-look-a-like structures (scarecrows), to beating drums, to poisoning and using other lethal weapons. Wildlife-related cropping activities are part of the farmers planned activities throughout the year.

3.9.2 Cooperation during the cropping season

Social capital, one of the five pillars of a sustainable livelihood framework (DFID 2000) is one of the key pillars of crop production in the area. The cooperation among community members that takes place through farming activities shows how crop production is mostly about being together, encouraging each other and learning how to be a better member of the community even if crops fail. The activities are planned like festivals, with the sole aim of helping each other out with the cropping activity that is at hand. A small budget for meat and beer ensures that many hands show up for the farming activity so that big areas can be covered in one day. These festivals are done even in bad cropping years. It is through these festivals that other new social ties are created and trust is built. Such gatherings have been employed to mobilize efforts involving natural resource governance issues, collective participation or resistance. Discussions on issues affecting the community, for example

wildlife problems, CAMPFIRE or services delivery by the rural authorities are also characterize these festivals.

3.9.3 Livestock production

There are huge numbers of livestock in Sengwe and the environment is highly conducive to livestock production. I approached my fieldwork in this are with the question whether farmers can opt for wildlife-based tourism at the expense of livestock. Major domestic animals that are sustaining people's livelihoods are cattle, goats, sheep, chickens and donkeys. The two wards have about 300,000 livestock in total, however, livestock per household vary from two in poor households to 500 in very rich households. Farm sizes are not a major issue in terms ownership but the ability to utilise them. Large tracks of land are usually idol during the farm season and if one has the capacity can always borrow.

Table 7. Livestock contribution to household economy

Livestock name	Average numbers	contribution to income (US$)	% Value to household economy for livestock
Cattle	20	300	80
Goat	30	50	10
Sheep	5	20	2
Chickens	50	10	5
Donkeys	3	10	3

Cattle are the major livestock contributors to the household economy (Table 7), followed by goats (10%). These contributions were calculated using data from a household survey and were analysed based on financial benefits as noted in the table above. However, this is a percentage that consists of livestock of all other forms, as noted above (Table 7). These contributions changed when I use other intrinsic[15] values, which cannot be quantified. The

[15] This means just having other values that are not monetary

success of cattle production in the area is mainly attributed to their resistance to diseases, to high temperatures and to huge amounts of minerals (salts) in the vegetation they feed upon. The cattle bred in the area are Tuli, Mashona, Borane and Afrikander, as well as inbreeds thereof. This mixture of breeds has increased the probability of success even when there were many other factors affecting the sector in the whole country.

The pictures show healthy herds consisting of a variety of breeds. However, the cattle selling business in the area is complicated because of the remoteness of the area, which makes it difficult to reach. Even if cattle fattening and marketing are viable in Sengwe, there are a lot of factors that hinder its full potential by reducing its potential profits. The markets which are in Harare, at 500km, Chiredzi, at 170km and Masvingo town, at 300km, are not easily accessible for individuals. This makes it difficult sell the cattle at competitive prices. I observed that both individuals and companies from the above-mentioned towns would drive their lorries to Sengwe and buy cattle at very low prices determined by the buyer, not the seller. High quality and well-fed cattle are bought in rural areas for as low as US$150 but the same are then sold at US$500 in Harare. Besides, livestock is used as a safety net in the household economy and when real need arises, such as medical expenses, the market is usually not available, forcing the farmers to sell their livestock in the local market for even cheaper prices.

3.9.4 Cattle pen-fattening potential

The livestock business in Sengwe, like many places worldwide, has been infected by the commercialization of beef products. Backed by the private sector, farmers have been lured into the cattle-fattening business, known by the term ‘pan-fattening’. This has been advertised as a potential business that could coexist harmoniously with wildlife management and other forms of livelihoods. According to Mr Madzinga, a government extension officer in the Ministry of Agriculture, cattle are fed intensively through approved stock feeds for at least three months before sales. This is supposed to not only boost the market value for livestock, but also reduce HWC and improve social ties within the community. He also said that pen-fattening makes it easier for collective marketing, thus increasing price competitiveness.

The tree species Combretum and Acacia that grow in the area are highly favoured by sheep and goats, for they are rich in proteins that are needed by these small livestock. Sheep and goats are very important in household economies because they are a food source and are good for immediate cash or bartering/trading for other important items such as food, scotch cuts, wheelbarrows and household goods. In my (host) family, between the months of April and September 2019, we slaughtered two goats and one sheep for food. Two goats were exchanged for a 50kg bag of maize[16]. It is not always the case for other families, however, who possess only small numbers of either sheep or goats. They must buy or sometimes be given small portions of meat/ food by their neighbours. When I inquired as to why small pieces were sent to other households every time, we slaughtered sheep or goats, my host mother replied,

> *"It is these little things that we share that helps us to cope with hardship and to create the basis for further cooperation. What you give will always come back to you one day when you are really in need. We only rely on each other here; no government can help us."*

3.9.5 Cross Border Trading

According to TrendEconomy (2019)[17], Zimbabwe imports 26% of basic commodities and raw materials from South Africa, China, and Mozambique, among other countries. Sengwe Wards (14 and 15) border Mozambique and are within walking distance of the nearest shops in these countries. Cross-border trading is a popular supplementary business and my data show that at least one family member of every family is directly or indirectly involved in it. The remoteness and neglect that the villagers have experienced have forced them to search for survival methods; the area thus became the gateway for smuggling cheaper goods in from South Africa and Mozambique. The establishment of trans frontier conservation has improved the central government's awareness of the people living in the area, however, it is yet to be determined who benefits from this situation. In this section I

[16] I replaced these goats and sheep at the end of my field stay at a price of about US$50-00 for the family.
[17] https://trendeconomy.com/data/h2/Zimbabwe/TOTAL

will give an account of one female villager and a cross-border trader, Chipo (nickname) on how she carries out her trading business in the area[18].

> *"I do my business here and I don't think I would one day go and live in the big cities, Mozambique or even South Africa. I have business associates there. I buy from Zimbabwe and sell in South Africa and Mozambique and vice versa. I also facilitate the movement of other goods in these three countries. In Zimbabwe I buy tobacco (cigarettes) and then supply them in South Africa. It is a big business and per month I would earn between (R5000 to R10,000). In Mozambique I facilitate the smuggling of second-hand clothes, beers, petroleum products, groceries among other things. In South Africa I mainly bring electronic gadgets and blankets. All these items, of course, are prohibited in the country without a license. Everyone here is doing it and we have nothing else to do. We meet our buyers in Chiredzi or even in Harare, if the items are of good value. I can support my family from this business but there are some challenges. In the past few years the border security has increased—too many soldiers and police officers on both sides of the country borders have been deployed."*

Chipo's interview gave me insight into how some of the people in the area make ends meet, which in turn spurred me to research the issue further. The increased number of security forces and boundary controls has made cross-border traders more vulnerable to abuse but has not improved their well-being. The presence of security has been viewed to secure the elite groups' interests, that is, tourism revenues and their '*poached ivory*'. This, however, confirms prior accusations by Mlusi that, "*GTFCA was set up as a political move to bridge diplomatic impasses and reduce the insurgence risks in the area*".

In separate interviews, community members acknowledged occurrences of rape and abuse of cross-border traders, putting the blame on the cross-border women traders who allegedly offer themselves to the law enforcement agencies in the absence of their migrated

[18] I must protect the names of the people; she does the business for ethical reasons

husbands. Mr Mlambo, a villager in Ward 14 said, “It is just prostitution among women. They don’t get raped, rather they take advantage of their travelling or absent husbands to cheat”. This exaggerated blame placed on women in the business is based on gender stereotyping. I observed that it is not only women in this business, but also men and unmarried girls.

I had no opportunity to formally interview security forces in the area due to the sensitivity of the matter, but I did manage to have a casual discussion with one of the soldiers who worked in the area in 2017, who reported,

> *“Our people are full of lies! We do not take advantage of their crossing business, but it is the desire of these women to cheat on their migrated husbands. They know what they are doing is illegal, why can’t they use the official border sites to do their businesses?”*

3.9.6 Recent migration to South Africa

Youthful men, both married and single, have either migrated permanently or spend long periods in South Africa. In one village with a total of 1200 people, 93 men have left for South Africa or other nearby countries since the year 2000, leaving their families behind. During my stay in Sengwe I noticed that getting South African identity documents might be easier for Shangaan people who still have known relatives on the other side of either of the two borders. I also observed that most of the South Africa-based residents travel back there in December for only two weeks to celebrate Christmas with families back home. My quantitative data show that 10% of the household receives regular remittances from relatives in other parts of the world.

It is difficult, however, to prove this in the Zimbabwean context. A lot was happening simultaneously when the GLTFCA was established, which meant that there were many factors at play to hinder the project’s progress. In the context of cross-border trading challenges, the account of Elvis is different but tragic. Most of the time he crosses the Limpopo and faces conflicts with wildlife. He said,

"You see these scars all over my leg? It was not my only encounter with wildlife, these days elephants are everywhere, crossing from South Africa to Zimbabwe. We sometimes abandon our trips, which we usually take during the night, when lions are in the area. The business is very risky in terms of security forces and wildlife animals – especially after the corridor walls open". Source: Fieldwork data 2018

The cross-border traders usually bring groceries, electronics or used clothes to sell. Some of the used clothes in Harare flea markets were smuggled through my research wards. These clothes come through the Beira Port in Mozambique, and they find their way through the porous borders especially into Ward 15 of Chiredzi. Under the Zimbabwean law, used clothes cannot be imported without special permission from the government, because of the obligatory tax to the government for selling these goods in the destination country.

"If you try to do this business and you are a man you will lose everything. The conditions and harassment that you will go through are risky and unprofitable. There are some items that we just buy from these cross-border women. The pricing is fair and reasonable". Villager, Phineas, 2019

The data around cross-border trading exposed the possible challenges associated with the activity. It also revealed deep-rooted misogynistic perceptions that view women as immoral people who use any means possible to get what they want. I did not continue to further research the matter because it was a departure from my main research questions.

3.10 Tourism

In this case, there are two distinct types of tourism – consumptive (hunting) and non-consumptive (ecotourism). In this section, I will concentrate on ecotourism as a form of livelihood, because hunting is covered intensely in the other chapter dealing with CAMPFIRE issues and human-wildlife conflicts.

Ecotourism in the GLTFCA: Community perspectives

In Sengwe, ecotourism is a subject people frequently talk about, even in casual conversations, and it is based on the hope of benefiting from it due to the much-advertised potential. There are some organized groups that are advocating for ecotourism space as a way to line up for benefits. Expectations, promises and disappointments are some of the themes that came up during my fieldwork interviews. To have a better understanding of how the community has organized itself through various Community Based Organisations (CBO), I focused on two groups whose history, current setup and challenges I will delve now into. According to one interview, the two groups are good examples of how CBOs fail to implement projects and how the state is not willing to devolve projects for communities to benefit.

In Sengwe area there were three main CBOs that have long been in operation there: Sesthile Vamanani Craft Association (SEVACA), Malipati Development Trust (MDT) and Pephela Trust. I will describe two of the groups, namely SEVACA and MDT. SEVACA was mainly a group of women and youths who produced wood carvings and other handicrafts for sale to tourists passing through the area. Their business was based on the collective marketing of individually produced wooden, stone and other artistic carvings. Respondents reported that before year 2005, there used to be a viable number of foreign tourists who would buy these artistic objects. While there is no empirical evidence to support the fact that selling curios to tourists was an historically viable business, the building of the craft centre was clearly done in anticipation of a better future in that line of business.

According to the former member and founder, Petra[19],

> *"We strategically positioned ourselves to benefit from tourists coming to Gonarezhou National Park and we thought that the opening up of borders would improve our revenues in the year 2004. We had a total of ZW$100,000 (US$10,000) in these days. It was a lot of money for us. However, our problem is the bad road network; no tourists come here.*

[19] Petra is not her real name. People within the community know who she is but for the purposes of this publication we agreed to make it anonymous.

They would rather go to Kruger National Park in South Africa. The establishment of the GLTFP left us out completely and no one buys our crafts anymore".

This is a common view among the community members regarding ecotourism, namely that the TFCA concept did not really materialize with respect to their welfare. However, SEVACA had its own problems, one of the founding members cheated the rest, reregistering the trust in her name and migrating to another area called Chikombedzi, (Ward 11 of the same district) where she changed the mission of her new setup. Petra represents a local group of community members who are usually at the centre of local CBOs and the capturing of local resources.

3.11 Extended Case: Malipati Development Trust (MDT)

During my fieldwork period in the Sengwe area, one of the most common topics that people brought up was the associations or cooperatives, which refer in this context to any formal or informal group of community members formed for a common cause. Normally these groups were initiated by extension workers, NGO staff or religious organizations in order to facilitate a funded project. The existence of facilitation has enabled the community to be part of either a CBO or a trust. Various programmes by NGOs like World Vision, CIRAD, BioHub, CESVI, SAFIRE and Plan International initiated these local trusts, including MDT. The role of NGOs and institutions in the GLTFCA will be discussed in another section dealing with adaptation strategies.

Figure 15. Doormats crafted by locals and being sold at the roadside in Chiredzi

MDT was established in the year 2002 but only formally registered as a trust under Zimbabwe's Deeds Registries Act in the year 2008. The aim of the organization was to make a collective platform for the community to benefit from ecotourism activities. The trust planned to benefit from tourism activities at four attractions, Manjinji pan, Nyawasikana Pool, Chilojo cliffs and Bosman Site. Consisting of 13 members, MDT has eight subsections, which they termed 'villages'. These are not the same villages that I have referred to in the rest of this dissertation, because each of the section's eight subsections is composed of a different number of villages. These subsections had steering committees that reported to the main Trust. The subjection committees were supposed to select the executive members of MDT and initiate the development agendas related to ecotourism and how communities can benefit from natural resources.

MDT is 'quoted' in various platforms in the GLTFCA when it comes to issues of community involvement or participation. In the year 2016 it partnered with Return Africa, Wilderness Safaris and Peace Park in a project called Pafuri Cross Border Trail Return Africa-Shangaan

Festival, which aimed to make the movements of Shangaan people across the borders of the three countries easier, as well as to promote cultural tourism. The project seems, however, to have remained on paper only; according to my own observations, nothing has been done to materialize it. MDT is a trust used by various stakeholders: if they want to legitimize their programmes as participatory, they mention MDT and sometimes invite its members to attend workshops, even if they know they won't gain any meaningful influence on the outcomes. The chairman of MDT, Mr Moyo said the following:

> *"We are told that the National Parks have partnered with us through MDT in building lodges in the park. The money will be distributed among community members. We know that those are lies. MDT is not benefiting much besides food that they eat during workshops and some bus fares that the committee is given to go back home. The people we represent think we are gaining all the benefits, but we are also excluded. They are now impatient with the way things are happening. So far ecotourism is just a wish, not a reality…"*

This accusation that CBOs or community groups are established to justify funding was common among the community members, who suspected that no livelihood was being brought about through the endeavours of MDT and the other organizations. The idea of forming groups for collective action and planning was noble but the implementation of projects often brings with it insurmountable challenges. Even if MDT had local membership, the benefits related to conservation arrangements were not known or appreciated by the respondents.

Challenges to ecotourism activities in Sengwe

Ecotourism remains a potential livelihood source and local communities carry the expectation that tourism activities contribute to their livelihood. The authorities also believe it would be, in the future, a major talking point in political campaigns. According to Chirozva (2009) the GLFCA is viewed by state and private enterprises as economically attractive and ecologically sustainable. Subsistence farmers had high expectations for the development of

their remote area to become a huge tourism hub, giving them other livelihood choices. However, from the time it was established, the locals have doubted if there was anything beneficial that would come from the big conservation area. The question is, why have no plans been implemented? And why are people so sceptical about the plans? Former councillor in the Chiredzi rural District Council had this to say on the matter:

"Our area is poorly developed for minimum requirements that tourists can endure in their adventurous experiences if we are to compare with our neighbour, South Africa's Kruger National Park. Why would someone come to Zimbabwe when they can enjoy a lot more just across the Limpopo River? The Zimbabwean side does not have many packages to sell to tourists. They are mostly donors who would just give you money for free.

The problem is what the government presents to those intending to visit: no one wants to visit a chaotic place, where there is no rule of law and there is poor service delivery. What if someone falls sick? There are no doctors here, and the clinic has no medication at all. The other challenge is that the government policies are not consistent. You have money today, but tomorrow you will be bankrupt. For example, I hear that it is now illegal to use foreign currency in Zimbabwe. Where and how will the tourists change their money? How does this help to make our country open for business?"

Livelihood prospects thus seem to hinge on political and social circumstances in the GLTFCA. Common views on this subject are that ecotourism remains a pie in the sky and that Zimbabwe sold out by joining the GLTFCA. South Africa is benefiting from the tourism due to their successful strategies to accommodate the influx of tourists. This is approximately indicated by the two graphs (Fig 16) below.

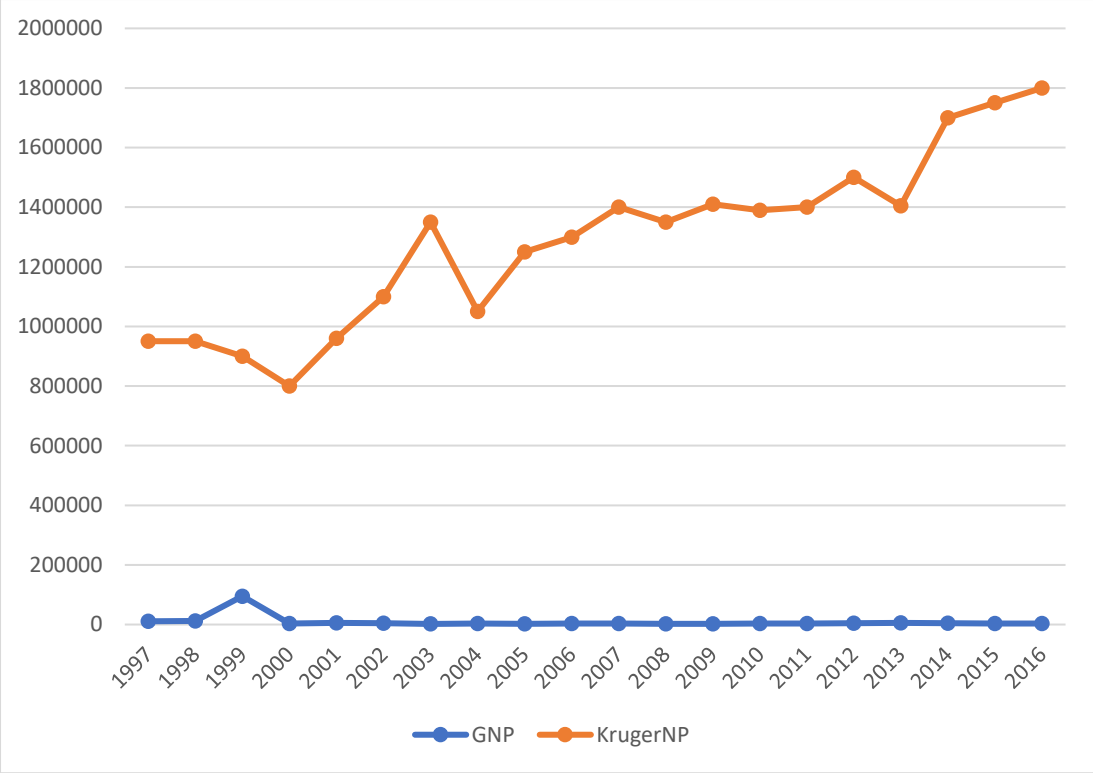


Figure 16. ***Tourism inflow in GNP vs. Kruger National Park***

Comparing the records from the Parks' main entrance registers, one can clearly see that the numbers of visitors to GNP and KNP (Fig 16) has never been on the same level over the past two decades. The South African side has enjoyed more tourist visits than the Zimbabwean side. Since the year 2000 there has been a significant increase in the number of arrivals in the KNP, yet that was the year GNP experienced a huge decline. It is the same period when the GLTP was established, as well as the same time when Zimbabwe's land resettlement programme became fully implemented.

Figure 17. *International tourist arrivals in GNP*

Forming formal groups has not helped much in improving livelihoods but it has created another layer of local elites. These elites are important to the state and stakeholders because they are used in legitimizing local projects, which are presented as if they are community driven. Using the so-called local leadership is cheaper and easy for NGOs, State or any other stakeholder in planning and implementing (or not) projects. However, the state legislation, Parks and Wildlife Act 197 and other statutory instruments do not give enough space for communities to benefit from ecotourism revenues. It seems as if local participation is just a favour, not a right, for the community.

3.12 Household Assets and safety nets

Incomes

Ten per cent (10%) of the households surveyed receive remittances and dividends, and of these, about 23% of the households receive remittances from a family member. This income represents about US$20 to US$50 per capita per year, which is of course not enough for anyone to live on, even in the Zimbabwean context. Outside incomes are peripheral in day-to-day household economies but in times of emergency, families are normally helped by foreign-based members to deal with the emergencies. These emergencies include sickness, acute shortage of food and school fees.

Physical Assets

Clean water sources are assets for the community because of the opportunity cost of not having them. As I have said earlier, Sengwe area has salty underground water and very few places have potable water. For this reason, villagers travel long distances to get water, mainly in scotch carts or wheelbarrows. During my stay, we used to travel 3km to fetch clean water. As you can see in the picture (Fig 18), we sometimes had to queue at the borehole for two hours to fill up our water containers. Families who did not have either cattle or donkeys to transport water had to pay $0,20 per 20 litre containers of water. A family like ours needed 20 of these containers each week.

Figure 18. People fetching water at the only borehole that produces potable water (Source fieldwork 2019)

Livestock is generally a symbol of wealth, whether one breeds them or just owns them. As discussed earlier in this chapter, they are sold when the need arises. On average each household has 2,1 hectares of land but does not hold title deeds to it. This land is communal land according to Zimbabwe's Communal Lands Act. It is passed down from generation to generation and under normal circumstances it is not repossessed by the state if there is still a living member of the family. In Ward 14 and 15, having a large track of land might not translate to food security because of erratic rainfall patterns. Unless there is a good supply of water and protection from wildlife, land does not have a high value. Very few have the capacity to irrigate their crops because of the capacity. However, since the 1980s, World

Vision (an NGO) has been helping the community with various projects, including irrigation systems.

Building infrastructure

There are a few villagers who own buildings at Malipati Shopping Centre. These buildings are rented out to those who open up grocery shops. With respect to community projects, there is a lodge owned by Paphela Trust (Fig 19).

Figure 19. Malipati Lodge

World Vision built the lodge and a conference centre during the time it had running projects in the area. When the projects ended, all the infrastructure from them donated to the community through a working trust, under the assumption that it would benefit the whole community. According to Shumba, who was the programme officer in World Visions and now runs a grocery shop at Malipati Business Centre,

"it was clear that when the GLTFCA was established, the Sengwe people were going to benefit. We also believed that various management workshops that certain individuals had attended would help them to manage the lodges – but they failed… the lodges are highly in debt by about US$6000".

3.13 Discussion

Even if Zimbabwe is an agriculture-based economy, in Sengwe farm productivity is not high because of weather conditions and wildlife attacks on crops. Unlike previous research by Chiutsi (2014), which proposes that tourism is important in the area, my study suggests that tourism not among the core livelihood strategies. Besides crop production, people depend on remittances, livestock and cross-border trading as the most available alternatives.

According to the Chirozva (2009) the GLTFCA remains a potential livelihood source to locals, contrary to my findings that tourism-related activities have provided no meaningful benefits. Tourism contributes little to the overall household economy, even if the Peace Park Foundation cited this as being the biggest advantage for local communities back in 2000 when GLTFP was established (Peace Park 2002). Benefits from the TFCA never materialized for the people, due to Zimbabwe's overall economic and political situation; moreover, as suggested by Chiutsi (2014) and Gandiwa (2011), the community was not prepared for receiving and utilizing those benefits. Since the implementation of GLTFP 20 years ago, the residents have not really benefited from it besides being disadvantaged by the banning of Safari hunting in Malipati Safari Area. The overall view in the community is that the GLTFCA has worsened rather than improved their situation. Makamuri *et al* (2013) shared this view and concluded that, instead of communities benefitting, the elite constitutes a layer of the society that captures all the expected benefits.

Farming related livelihood activities are important to the Sengwe community, a view that is also shared with Dzingirai (2004) and Spierenburg *et al*. (2008). Crop production has a lot of challenges as noted by Manjengwa *et al*. (2011) but NGOs have helped communities by introducing adaptation mechanisms to become more resilient. Drought resistant crops, like Sorghum and millets are important in terms of providing household food security but they

are targeted by quelea birds and elephants, which makes it very difficult to survive only on these crops. Because these farmers are growing their own food, farming remains at the top on a household time allocation and is prioritized even in drought years.

Cooperatives or trusts at local levels have great potential for collective advocacy, savings, and the sharing of ideas, however, in many communities they always seem to fail, as demonstrated by the two cases that I have discussed in depth. Contrary to the study by Chirozva (2015) that MDT was a viable community-based trust because it was able to host various festivals and tourist events in 2013, the community feels not fully represented and thus betrayed. The trust in Sengwe created a new layer of local elites whose hands are usually found in all sectors of the community, benefiting from all potential livelihood sources. Development agencies usually target the local elites even though they have a history of failing in previous projects.

Research by Chirozva (2009) on water problems in Sengwe converges with my own findings that clean water is considered a livelihood asset and being close to potable water sources affords a household valuable time to do other important livelihood activities. I argue that considering the two main categories of livelihood sources (activities and assets), Sengwe community has limited choices as compared to other rural areas that can engage in mining, farm cash crops, or work on farms or at tourism resorts. Compounded by erratic rainfall, communities are faced with wildlife that destroy their crops. This has a significant impact on farming in general. Local villagers spend the whole farming season scaring away wildlife from their crops, which leaves little time for other activities.

Cross-border trading in rural areas has not been recognized as a real livelihood, neither by scholars nor by policy workers. In Sengwe, however, there are a lot of cross-border activities that invariably affect household economies. Much of the trade is certainly illegal, but there are legal movements through official border sites as well. There has not been much research into the cross-border trading livelihood in the Trans Frontier Conservation setup.

3.14 Conclusion

Livelihoods in Sengwe are limited. The formation of GLTFCA left them worse off than before because of the reduced opportunities to benefit from tourism. However, poor development of infrastructure like roads reduces the chances of sustaining other livelihood options in the

area. Cross-border trading is one of the serious engagements in the study area, but it is coupled with illicit activities and fraught with incidences of rape, which makes it unsustainable and puts some groups of people at great risk.

People have been forced out of their original places of settlement by various governmental policies. According to Mombeshora and Le Bel (2009) the formation of national parks in Zimbabwe led to the displacement of communities from their original settlements. Another view supported by scholars is that migration, displacements and the new land claims are a major factor in the GLTFCA's the perceived demise (Tavuyanago 2011). My findings counter this view to propose that it was the colonial regime's policy to create native reserves where resources are too scarce to provide adequate living conditions. This view is shared by Sadomba (2010), who revealed that the colonial government wanted to create the need to find jobs in the newly established settler industries and farms. These farms were failing to find enough manpower, so they had to invent a policy that would force the African communities to work for them. This accusation is supported by my data, which shows that protected villages, keeps and native reserves are in generally uninhabitable areas. There are contestations for land in the GNP but even though Sengwe is not within the national park, the fact that other people managed to grab land within the park has increased pressure on wildlife. A similar discontent to that which was discovered by Dzingirai (2004) vis-à-vis CAMPFIRE can be seen here targeted at the TFCA initiative.

Chapter 4

A look into history: How did people live with wildlife? Why and when did things fall apart?

4.1 Introduction

In this chapter, I aim to explore how historical Sengwe communities were connected to wildlife and how that helped in the preservation of life in both human and wildlife forms. Data for this chapter was mainly collected from interviews with spirit mediums and elderly members of the community.

African societies have a long history of understanding their place in the natural world in such a way that regardless of boundaries and fences, the people longed with their entire being to be in the areas now demarcated as being national parks (Mavhunga 2014). Their belief systems, cultures, norms and values (*Ubuntu/hunhu*), and general way of life that early conservationists classified as illegal and backwards had a significant impact on the perceptions to wildlife and their habitats (Berkes 1999; Davidson-Hunt *et al*. 2000).

Sadomba (2010) described how, colonial land dispossession of the African native inhabitants led to the disruption of the relationship between the people and their ancestors. Some of the most important ancestral places were turned into agricultural land and some even became housing sites. The belief of 'African Wildlife Paradise', in the history of the colonisation of Tanzania by Germany, was common among the early settlers. Africa was populated with huge wildlife populations and human settlements were not separated from wildlife.

While it is tempting to think that the relationship between humans and wildlife was harmonious until colonisers entered the scene, there were presumably also human-wildlife conflicts in the precolonial era. The evolution of human-wildlife conflicts is strongly linked to how ancestors, during the precolonial and colonial periods, were living with nature and how nature influenced human life. Given how many scholars have given attention to the indigenous knowledge systems with respect to wildlife management practices, it is prudent

to give the cultural linkages of human life to nature in general and to wildlife. The Sengwe area is inhabited by three main tribes – the Shona, Ndebele and Shangaan -- whose histories diverge in terms of migration and political structural. Because of their current cohabitation, however, I use terms from all three languages in this chapter.

There have been major disruptions and changes in the human wildlife relationships and practices due to the imposition of Christianity, colonisation and globalisation. The colonial utopic concept of a paradise in which nature was friendly to humans and vice versa is at the centre of my argument that HWC is a manifestation of changes in societal structures and wildlife management practices.

4.2 African Traditional Religion and the history of conservation.

There is a historical notion of Africa as a paradise for both humans and wildlife, in which humans lived harmoniously alongside wildlife (Adams and McShane, 1992). There were indisputably always conflicts between humans and wildlife, but the question is, did their frequency and intensity increase since colonisation? Wildlife was managed through a combination of methods through culture-based systems, but this is not to say that wildlife did not kill people or that people did not over-hunt. During the Great Zimbabwe era, there is evidence that people overhunted and put their environment under pressure to the extent that it became uninhabitable (Pwiti 1991). The ultimate demise of the Kingdom of Great Zimbabwe was believed to be due to environmental problems rather than to war or other human conflicts (Ibid). However, there was a period in history when wildlife populations declined drastically, some even to the point of extinction. A very likely a causal factor were humans. As a starting point, an interview with an 89-year-old elder in the village, Mr Sibanda, mentioned the significant change in people's relationship to their totems:

> *'There are many ways people survived in their day to day lives. I will narrate things I have seen and those I have heard from my grandfathers and maybe you can figure out what you really want to know. I might help you. There were* mitupo *(totems), [and] no one was allowed to eat* mitupo*;*

for sure they were very important in day-to-day protection of people's lives. As you know everyone here has mitupo*.*

Respondents explained that totems are symbolising social identities where animals are pronounced to have a special relationship to individuals as well as groups of humans. My informants agreed that it was the role of the spirit mediums to designate the totem to an individual in the past. When an individual was ascribed a totem, they would be given a separate space to occupy, which became a 'kingdom' in the future. Two people bearing the same totem were not allowed to marry – and still to this day. Under no circumstance was a clan allowed to hunt, kill or eat their totem animal. Those who did so suffered rotten teeth, became blind or would be subject to recurrent bad luck in life. Totems were also the identity of the ancestral spirits (*mudzimu*), which was supposed to be appeased or prayed to by their descendants. There were various totems and almost all common animal species within the range had a lineage named after them[20].

While the population of a given species would decline in certain areas, there were other areas where it flourished, allegedly due to totem preservation. This acted as a sort of conservation method, passed down from generation to generation. However, with migration and modernisation, people of different totems are now cohabiting and as I shall discuss further in the following section, totems are no longer respected so much.

The most interesting part is that these totems are part of the culture of all the ethnic communities in the area. I found out that in Sengwe 45% of the respondents were of the *Mpofu* totem (Table 8), albeit from different ethnic groups. A totem like *Mpofu* could thus be expressed in all the three dominant languages, which proves that it was a practice upheld in the entire region and carried out by all ethnic groups. However, those who shared the totem and were of a different tribe would not be related to each other in such a way that they could marry[21].

Table 8. Totem proportions in the Sengwe (from a 300 households)

[20] My family members are all of the Ngara (porcupine) totem

[21] People of the same totem are forbidden to marry each other. It was taboo.

Totem[22]	Mpofu (Eland antelope) Shangaan	Nyathi (buffalo) **shangaan** Shona	Ndlovu (Elephant) Ndebele	Gudo (baboon) Shona	Nyoni (Fish eagle) Ndebele Shangaan	Others
Percentage (%)	45	18	15	12	5	5
Numbers (n)	135	54	45	36	15	15

There are some few differences in the identification of Shona, Ndebele and Shangaan in the use of totems. One of them is that Shonas rarely use totems as their second names as is the case with Ndebeles and Shangaan.

> *What we believed were* muhlolo *(taboos) in the past, are now normal behaviour in our communities. We see young men marrying your mothers or mothers-in-law. (Mr Sibanda, interview)*

The norms and behaviours in African traditional society were strongly influenced by what we might call superstitions. Besides not eating one's totem, it was unheard of for someone to eat snakes and hyenas, among other animals. These were deemed to possess high levels of wickedness and were associated with witchcraft, which was believed to come from the evil spirits that constantly fought with ancestors. These beliefs served to preserve the populations of these 'taboo' animals in such a way that in rural Zimbabwe, where most wildlife species became extinct, there are even now viable populations of animals such as hyenas, snakes, etc.

[22] These totems are present in the three main languages, Shona, Ndebele and Shangaan

> *The ancestors had their way of ruling the society, through swikwembu (spirit mediums), n'anga (traditional healers) and traditional leaders (madzimambo). They really were respected as true recipients of messages from the gods. It was known by the hunters that you don't kill the young of any animal in the wild when you are hunting because you will anger the gods and it may result in failures in that hunting tradition – or you might lose your life in the wilderness. In any event you do not displease the gods or talk about sacred places when you are there. You will disappear in the mountains, and no one will see you again. Those things keep our ancestors alive even if they lived with all the wildlife you can think of*. (Mr Ndhlovu, interview)

Swikwembu played a very important role in disseminating information from the ancestors to the people and vice versa. At times they would work as intermediators when people had done wrong against their ancestors. These spirit mediums made known the wrath of the gods in case an abomination was done in the community. In the interviews, I was given examples of how easy life was during the times when spirit mediums were still respected, because they foretold dangers, famines, and disasters and thereby helped communities to prepare. Most of the time, that forewarning would be sufficient to avert the problems. Associated with spirit mediums were *n'anga* (traditional healers), who were also inspired by the ancestors to know different medicines for a variety of ailments, including snake bites. These snake bites were fatal; they were immediate examples of human-wildlife conflicts. Unlike other wildlife problems, there was never a time when snake bites were attributed to angry gods or ancestors – only to evil spirits. When my respondents attributed anything to evil spirits, it was synonymous to current forms of wildlife attacks on humans and there was always a retaliation from people.

I was told by one of the traditional healers that seeing poisonous snakes fight was one of the ways the ancestors would show you the medicine. When they fight, they are likely to poison each other, leading to a halt in the fight. However, the other snake would go to a bush and come back with a leaf or root of a certain tree species and apply it to the wound,

whereupon the other snake would suddenly be well enough to start the fight again. It turned out that the species of tree was able to heal that snake bite. He said that was how he knows about most snake bite traditional medicines of which he could not tell anyone except if his gods tell him to. This kind of revelation was not common and could only happen if one was chosen by the ancestors. The traditional healers could also be a spirit medium, but not always.

Spirit mediums and traditional healers worked against the presence and effects of the *Moya wecchaka* (Shangaan word translated to evil spirits), a group of unwanted spirits in the society. These included spirits of outsider dead people manifesting in local people to fight the ancestors, and they always brought problems. This category included witches and other evil spirits that also worked with certain wildlife species, especially the Spotted Hyena, the Egyptian Cobra (*Mhungu*), various species of swallows, swifts and the Spotted Owl. There are animals that were highly protected from hunting or killing because of their role in witchcraft issues and fear. In this society, it is believed that witches ride on spotted hyena when performing their witchcraft at night. This belief is so strong that still today, hyenas are abundant in Zimbabwe's communal lands while all other species have retreated to conservation areas. Many respondents believed that most Egyptian Cobras were being kept in the house by witches, only to be released if assigned to bewitch someone. The Spotted Owl was believed to be one of the messengers that deliver *Moya wecchaka*, spirits that can even cause death or misfortunes. This belief was very strong due to the nocturnal nature of this owl species and the inability of the local community members to fully understand their ecology.

…Some people were never hunters, even if they ate meat every day. There was a special group of people who could share meat with lions, cheetahs and other big cats. They will just follow them, and when the cats killed a big animal like an eland, they will go there and do a xiphato (poem of praising the gods) and suddenly the big cats will leave the carcass for a few moments. One of the people would go straight to the carcass and cut one piece, the whole leg for example, from it and leave. The cats will not harm

them at all but would come back when the people were gone. This only worked if you were pure before the gods and did not take too much from the cats. Mr. Mlambo, interview

---

Hunting was only done when it was necessary – namely for food consumption. It was never done for fun, as is common today, but rather by professionals who were locally trained and who abided by the rules and norms. With the guidance of the ancestors and spirit mediums, hunters would be inspired to take routes that would minimise conflicts with other dangerous wildlife, and at the same time, sharing hunts and spaces with them. When the hunting expedition lasted too long without a kill, the hunters would go to designated areas in the wilderness and perform some minor rituals such as speaking *xiphato* (poems) to their ancestors. This provided hunting opportunities as described above, when they would share meat with the lions or cheetahs. Hunting was thereby seen as a collective effort between the spirits and the people. Due to this connectedness, all hunters knew that if they did not respect the rules, it would become difficult to hunt and the punishments would be unbearable. Wildlife was protected very well by the spiritual world even when the animals were hunted for food.

During the interview with one of the elders of the community, he narrated how at times the spirit mediums would intervene if something went wrong on the hunting expedition. He recounted how during one hunt, his father and other community hunters had made a mistake and said the wrong thing in the sacred wilderness when they were infected with *kelekele* (confusion that makes you lose orientation/ directions even in an area that you are familiar with), fearing they would be killed in forests. At that time when they were in despair, the local spirit medium came to their rescue and performed rituals and asked for their forgiveness from their ancestors and the group safely came back home. People would lose their lives in this kind of circumstances and their cooperation with the spirit world led them to do the right things.

When there was a famine, our spirit mediums would organise ceremonies, like mukwerera (rain calling ritual), and something extraordinary usually

happened afterwards -- food would be available in the form of fruits, among other things. The same with the problem of crop decimation from wildlife: something was done by the leaders, and the wildlife would retreat. Nothing just happened naturally; it had to do with the supernatural world, which is ruled by our ancestors and gods. Snake bites were not usually fatal, because the traditional healers would be told by the ancestors what tree to give to the victim so it would be healed. During those days, we knew which parts of the river to swim and play because young people listened to the elderly, who had experience. It was very rare to hear of crocodile attacks – unless it was a punishment for something. Mr Chauke, interview

---

The role of traditional ceremonies was emphasised by interviewees, as seen in the quote above. It is important to note that to each societal problem belonged a particular ceremony that was meant to solve the problem. *Kelekele*, which is still being performed today, was done in the middle of the dry season, around September, when traditional beer was brewed, and community leaders would ask their gods for a successful farming season. This was accompanied by intercessions against crop destruction by wildlife, dry spells and other unforeseeable calamities. Doing this ensured rainfall and that no wildlife would give them problems on the farms. In some cases, the ancestors would not stop the droughts from happening, but would provide forest products like fruits and roots, and hunting game before, during and after the drought. The spirit mediums were also the ones who alerted the community about these gifts, early enough for them to prepare for these interventions.

If the guidelines and norms were not followed religiously, harmony with nature was not guaranteed. It took collective efforts by the community members to advise each other on how to avoid the anger of the gods. Community members today by and large believe that their ancestors lived in the wilderness successfully even without the sophisticated weapons and shelter that they have today simply because they were obedient to the spirits. All those ceremonies revolved around wildlife, which people understood as signs of approval or disapproval by the gods. The informants revealed that when the ancestors were happy and approved of the ceremony, they would send the supreme ancestor, represented by a lion

(*Nghala*), to be seen in the village. On the contrary, when they were not happy, animals like File snakes (*Gracililima nyassae*) were seen flying past the ceremony to show that something was wrong.

Wildlife behaviour was also very important in day-to-day living because they were symbols of the supernatural or spiritual world. *Chapungu* (Bateleur Eagle) was a messenger of the king, so no one would harm it because that would insult the kingdom. Injuring it would invite the anger of the gods and bad things would invariably happen, especially to the one who committed the wrong. *Hungwe* (African Fish Eagle), one of the most treasured artefacts of Great Zimbabwe and the country's national emblem, is a totem to a small proportion of the Shona people but it was highly worshipped, and, despite limited historical records, oral history tells us that it was an important bird. In the current perceptions, it is a rain bird; its peculiar sounds are associated with the coming of the rains. Nowadays, the African Fish Eagle has been pushed to rivers in the well-protected areas that have abundant fish. Most rivers in the communal areas have silted up and the fish population has diminished and can no longer sustain the Fish Eagles.

Crossing or fishing in the rivers was dangerous unless people kept to the areas that were designated as safe. The danger came not only in the form of crocodiles – there were also stories of mermaids (*Njuzu*) that also could capture humans, especially young people. According to the elders, the mermaids had two dimensions.

- They were evil and when they took someone, they would keep the person underwater for a long time before killing them. The victims' bodies would be seen floating on the rivers months after going missing.
- *Njuzu* were also, however, the sources of healing powers; the *n'anga* usually got their instructions from them. In this narrative, if you knew that someone had been taken by mermaids, you were not supposed to mourn or hold funerals, otherwise the missing person would truly die. Instead, keeping calm was advised by the spirit mediums, because while the kidnapped individual was being held, the mermaids would teach him/her healing, showing him/her all the trees that could heal specific diseases. I was told that during this tour, the mermaids would be feeding the person with disgusting foods that one would otherwise not eat. I interviewed one person

whose father had been possessed by the spirit of *njuzu* after he was taken as a little boy. It was a rare interview, and difficult, because it was one of the most dangerous secrets to tell. The interview, however, confirmed what I had observed: in this community mermaids are not a myth but rather a real experience.

There were signs that the gods would use to warn people of imminent dangers forcing them to prepare. According to Hlonipani,

---

There were things called bad omens that would guide everyone in the community. Signs which it would be stupid to ignore. In the past, if a snake crossed the path in front of you, it meant you were likely to meet trouble on your journey. It was an instruction from the gods that you should go back where you were coming from. If you ignored the sign you would encounter, maybe, dangerous, wild animals, or it meant at home there was a danger that you needed to deal with. Those things protected the society and kept us vigilant.

Wildlife species had different messages they conveyed to the community in these historical periods. Snakes of all species would allegedly not cross anyone's path unless to indicate problems ahead, as was revealed in the interview above. This was also the same with squirrels; if a squirrel crossed your path two or three times consecutively, you would invariably have to return to where you were coming from, as those who refused to heed these signs were killed by dangerous animals like buffalos, leopards, lions, elephants, and rhinos, among others. In this respect, squirrels and snakes were associated with bad luck.

Folktales, songs, proverbs and nature

Folktales (*karingani*) have been a tool used to teach moral lessons and educate the youth about wildlife conservation and ecology. These stories were told to the youth by the elderly, first as a form of entertainment, then as education. Such stories seemed real because of their characters. One of the tales that I listened to one night in Sengwe, for example, was

about the cleverness of a rabbit wanting to destroy the baboon population using fire. He started a fire, thinking he was such a fast runner, it would not catch up with him, but he was proven wrong. While rabbit started the fire, the baboons ran to the rocky promontory in the vicinity, and the fire ended up destroying everything, including the rabbit and his family. I noticed how important this story became to the children who listened to it because they could relate to the frequent fires that ravage grazing lands and kill small wildlife. Even after some months during my stay, I tracked them to find out how long the teachings would be remembered. It was inspirational to hear the story being referred to repeatedly, among other tales. However, the old women worried about the influx of too many voices into the children's ears, and how those would flood them with different kinds of education and material. They believed that was diluting their morality and resulting in the youth growing up without a good sense of environmental conservation.

Music or songs were also important in the history of humans and wildlife relations. Informants told me that songs carried strong meaning and could control emotions and actions at the same time. There were songs that praised humans' resemblance to admirable characteristics of animals, for example, a lion. The degree of influence that the song had on the human-wildlife relations depended on the value given to that wildlife species. Songs lauding a person in relation to his lion-like characteristics would in turn serve to boost the lion's value, and so forth. Sung by households or individuals or even at large community gatherings, songs played important roles in the traditional ceremonies as well as in rallying people to cooperate in community activities. They also served to encourage people to maintain a certain relationship with their environment.

In Sengwe's diverse cultures, there are various proverbs and idioms with deep meanings and purpose. *Mukuru mukuru hanga haigare pfunde*[23] (respect anyone older than you) refers to the *Hanga* (the francolin), and the fact that the older it gets, the bigger its crest gets; meaning the more one ages, the more responsibility and knowledge we carry. Local languages were strongly influenced by the surroundings, and that influence both demonstrated the value held by the people for the natural world as well as served to

[23] This cannot be literally translated to English, so what follows is an explanation of the meaning rather than a translation.

protect it. Wildlife conservation was therefore culturally embedded and did not need to be made explicit; it already took form in the adherence to the daily norms and belief systems.

There is a tendency to imagine this old way as an African paradise, but on the contrary, there were still plenty of challenges that people had to deal with daily. Their challenges were not always wildlife-related but included rather a host of diseases, wars with neighbours, and other challenges. However, they certainly had better ways of reducing conflicts with wildlife. Besides the low population density in those days, the location of human settlements was mainly a free choice, as there were more free spaces that people could inhabit. This freedom ended at some point, but no specific time period can be determined when things started to fall apart, which I will discuss in the next section of this chapter.

4.2 Things fell apart

The strong spirituality of the Sengwe community of the past was embedded in the daily norms and belief systems such that the reasons behind taboos or customs and traditions were not always apparent, particularly to the youth. Respondents reflected that there was not much explanation given for habits, and one would find out only in one's maturity that the reasons had to do with avoiding overhunting or coming too close to wildlife.

A prime example of these belief-based customs is the phenomenon of avoiding work on *Chisi*, a day set aside by the spirit mediums for traditional ceremonies to appease ancestors. During this day, no one is allowed to work except under the instruction of the spirit mediums. It is a spiritual day of worship in the African traditional religion that is guarded by the spirit mediums and enforced by the traditional leadership. Some respondents recounted about families who did not harvest during chisi days – even in good rainfall years – because they believed it would bring surprising and instant punishment, like elephants only destroying their crops while sparing those of all their neighbours. Not only that, but it was also considered one of the biggest disregards of the traditional leadership, which then led to other physical punishments. The history or rather possibilities of wildlife being part of spiritual punishments is also embedded in folk tales and old stories:

> *"…. the whole family was punished for working during chisi. In what amazed the whole community, a group of baboons came and destroyed the family's sorghum fields and uprooted all germinated crops…."* Source: Fieldwork 2019

In the African traditional religion, wildlife does not just harm people for no reason, a conclusion I came to acknowledged in long discussions on different occasions with spirit mediums Hloniphani, Chironga and Muleya. Their statements were similar and were supported by interviews that I had with the elderly members of the society.

> *……Chisi hachieri musi wacharimwa (Chisi is not sacred on the day of farming). Since the time of our ancestors, we used to have wildlife sent by the gods to punish wrongdoers in the community – but not exactly on the day when the crime is committed. It might take weeks if not months or years after working on chisi, disrespecting the Xikwembu (God), that a calamity would befall you. If the community inquired about these problems, the spirit mediums would just tell them that it was a punishment. (*Spirit medium)

The idea behind the above quote is that some of the problems being faced today were inherited from the past. When people turned their backs on the ancestors, some of the punishments were instant, whereas some are said to be manifesting now. HWC are some of the things that some respondents believe are ways in which the gods are expressing their anger against the people. Just like *pfuko* (avenging spirits of the dead) may not torment the generations that committed the crime, but rather the third or fourth generations that follow. The spirit mediums concurred that people have over the past years 'invited' punishments from the gods, and that is the reason why all is not well at the present time. They pointed out that all wildlife respect humans and they, under normal circumstances, would avoid humans at all costs, but are sent by the gods or evil spirits to conflict with humans when they are being sent. They argued that the problems humans are facing in relation to wildlife are based on their lack of knowledge on how to communicate with the supernatural world, which, according to the spirit mediums, has caused them to be unable

to hear possible solutions from the gods. To prove this point, the interviewees pointed to the fact that some current professional hunters have learnt to consult the spirit mediums and traditional leaders for advice before they take their clients on the hunting expeditions. This supposedly makes their hunts easy and faster – to the satisfaction of their clients.

….What kind of punishment commonly occurred? Baboons would target one's farm and eat everything in the field, or elephants would come to the field destroying crops or even houses. The most uncommon punishments included animals, like the killing of livestock by lions without them eating the carcasses. In most cases Xikwembu protects his people through wildlife and our surroundings; only in times of mischief does he use the same to retaliate.

Punishments can be communal, as we see today, with no rain and temperatures that are too high. Everything is working against the people because people have turned against Xikwembu (the Creator). People are always wondering why we say the gods are angry but there are a lot of reasons: abandoning our way of worship and going to these churches, disrespecting the elderly and adopting other [Western] cultures. That's not all! We spirit mediums have since been forgotten by the rulers, and we are not listened to. The gods speak through us every day of the things that are going to happen, and they correct the rulers of their wrongs, and yet we do not receive audiences with them. People and their livestock are suffering from different diseases and pains, and we know the solutions, but who will listen to us….(Fieldwork notes)

The advent of Christianity is blamed more for the loss of culture and local traditions than the colonialism that followed. It is seen as the beginning of a huge divergence from the traditional norms and behaviours. Christianity came with a change in worldview within the society, since everyone was taught to abandon all cultural practices that were associated with the polytheistic – i.e., 'evil' – worldview. It was not difficult to convince local people

about the existence of evil spirits, as they were already known in the local context. The arrival of the first Roman Catholic Missionary, Father Gonzalo da Silveira in year 1556[24] in the Munhumutapa kingdom, in present-day Zimbabwe, was the beginning of the conversion of most African societies to Christianity. Upon his arrival, he was welcomed by the Munhumutapa King, Negomo Mapunzagutu, which angered the gods and the ancestors. This is how things began to fall apart in human-wildlife relations, which were based on complex relations between the natural and spiritual world. The introduction of the new religion introduced to Africa the western cultural ideas of democracy and social freedom, which would shape and indeed dominate African societies in the centuries to follow. I was informed that some of the most valued norms in history started to be questioned and young people increasingly became being educated in systems based on science and colonial laws. Ancestor worship began to be seen as a strange practice and wildlife became an asset for recreation and business.

The colonisation of Zimbabwe in general started in 1888 when the British arrived coming from the Cape in South Africa and everything changed in this region. It is not known exactly when the first colonial powers arrived in the Sengwe area, but it is believed to have been around 1890. As I have indicated in the other chapters, conservation policies that were introduced during the colonial period were only viewed as an extension of white colonial policies and people introduced new methods of retaliation as weapons of the weak. These included poaching, wildlife poisoning and habitat destruction. The occupation of designated wildlife zones was also done by local communities to show anger at the white government policies.

Colonialism and its accompanying worldview and loss of traditional cultural history were at the centre of what caused of the traditional ways to fall apart. However, the informants were more likely to blame not the Christian settlers or colonialists, but their own ancestors for failing to fight and protect their land and beliefs.

[24] https://www.thepatriot.co.zw/old_posts/early-african-resistance-to-christian-missionaries/

I will give you an example: when the white man colonised our land some years ago, the gods were not happy with the way we allowed them to settle. Since the coming of the white man, our sacred places have been destroyed or exposed. We see what these young people are doing to their parents and elders of the society -- they have totally lost respect. This is the reason why things will not be as good as the previous years; they are going to be in poverty, conflicting with everything, even wildlife. -Spirit Medium Hlonipani

There is a belief among the local traditional hardliners that current problems with wildlife are being caused by a fight for control over the natural resources between the traditional spiritual hierarchy and Western science because of their incompatible differences in perceiving the world. Some of the current challenges like livestock diseases and pests are said to have been brought about by colonialists to force native Africans to rely on the white capitalist economies. Rinderpest was a contagious fever in cattle, buffaloes and other angulates that wiped out many these animal species. Its arrival in southern Africa between 1896 and 1897 was strongly associated with the arrival of white colonialists: the natives took it as a sign that the gods had abandoned the land because of the new settlers.

Our gods are not happy with people cutting down trees, especially sacred ones, for selling. Where will mhondoro stay? There are mobile networks booster stations on top of Makomo emidzimu (ancestral mountains). When we intercede for the community in these places, we don't receive solutions but the wrath of the gods. Elephants will not stop attacking people and more people will be swallowed by crocodiles until we know how to behave.

According to the narrative in the quote above, the dangerous proximity between people and wildlife is an indication that the wildlife habitats have been destroyed and the animals are now retaliating. The sacred place that was referred to, the Chilojo Hills, constitutes the

busiest tourist site in the Gonarezhou National Park. Even though park authorities have tried to limit access, the hills have seen so much traffic, they don't look like anything sacred anymore. Of course, this means people are coming too close to wild animals, increasing the chances of conflict with them.

According to park officials and NGO extension workers in the area, the idea that the gods are angry comes from people who feel that the wildlife is no longer benefiting them, and they want more access, benefits and increased participation in decision-making processes. They informed me that this narrative is not new, but it was the same ideas that caused the Department of National Parks and Wildlife management, in the 1980s, to initiate the CAMPFIRE. When CAMPFIRE was viable, according to this group of interviews, the gods were happy and silent; only now when there is no more money are they so angry.

There was a traditional leadership system that one of my informants explained as follows:

> *The biggest problem are the so-called traditional leaders -- they are not our own leaders but were imposed on us by the white settlers. As we speak, hardly any, and probably none of them can recite the xiphato (poems) to appease our ancestors. They are supposed to be the custodians of our culture – leaders who guide us in our own traditional ways. But instead, you will not be surprised that they are teaming up with outsiders to kill our wildlife, our heritage. They have learnt that money and power are good for themselves but ignoring that our ancestors have been keeping these resources from time immemorial. As I speak right now, people are killing and even eating their totems.*

The death of the true traditional leadership system through the replacement with 'western democracy' has also been blamed for things falling apart. The current crop of traditional leadership is not the same as the historical system, where the king had absolute power over his subjects. The time when these traditional leadership roles were changed coincided with the emergence of environmental challenges and disappearance of harmony between nature

and human communities. One major problem that was pinpointed was the allocation of a chief and the external mandate for him to rule over areas that are not of his lineage, thus not his totem. Ancestors or gods of that specific land did not know them at all. This was said to be the reason why they could not organise proper traditional ceremonies to appease the ancestors and one reason why people's problems continue. The totem system had worked in a similar way to the passport system today and one could be deemed foreigner to the land if one was of another totem. If you are a foreigner in this community, you have limited political and social rights, and would be ineligible to become a traditional leader.

This is the same belief that has caused disagreements between park officials and the local community, especially when these government employees come from other regions of the country. Locals do not believe they have the proper knowledge to understand '*their wildlife*' and manage problems between people and wildlife. Ecologists, as trained scientists, would follow the science but local communities believe they are part of the problem. One of the spirit mediums, Hlonipani, revealed that a lot of ZimParks officials have in the past mysteriously disappeared from their places of work because they had not been approved by the ancestors.

4.3 Parks and human settlement

Park authorities have associated the establishment of conservation areas with the revival of threatened species populations by reducing habitat destruction. They believe fortress conservation was only hated because of the period it was associated with, namely colonialism. While they do not deny that this period was hostile to both local populations and wildlife, they believe there were some success stories. They cannot, however, find good examples of them.

4.3.1 Current setup as a reflection of history

Community perspectives to wildlife ecology and movements

Ecology is a scientific discipline with all the appropriate conditions and rules, but I found out that communities have their own understanding of it and of wildlife movements. It is these understandings shape their perceptions of and attitudes toward wildlife and natural resources in general. I began to wonder if there was anything called 'community perspectives' in the field of ecology and began asking questions in the field along those lines, interviewing various stakeholders on the topic. This section is based on what I gathered from the confines of the researched community before doing any formal research into expert opinions and views. This helped me to have a more candid view on to the actual variables available during individual decision-making processes, which have far-reaching impacts on the state of natural resources. In this section, my analysis of ecological perceptions is based on two large mammals, the Elephant (*Loxodonta Africana*) and the African Buffalo (*Syncerus caffer*). which were flagship ungulate species in the community-wildlife interactions. The communities believe they have a lot of experience and knowledge regarding these two large herbivores.

> "*Elephants are always here in our fields because during our cropping season there is more food here than in the National Park. They prefer crops because they have more nutrients – take for example sorghum, maize and watermelons. They will travel long distances from protected areas to feed on our crops even if you scare them….*"
> (Source: fieldwork data 2017).

This is an interesting belief that was common among the interviewees and thus also critical in their decision-making processes. During my fieldwork, I recorded the frequency with which elephants and buffaloes crossed or visited crop fields throughout the year and I have data recorded in Table 9 to justify this accession. It turned out there wasn't much difference in the frequency of visits between cropping and non-cropping season. These animals in fact always passed through villages and seemed almost coincidentally to browse or graze through the crop fields. Could this imply the feeding behaviour of these animals is random?

Table 9. Number of times elephants and buffaloes pass though crop fields in Hlarweni village (Source fieldwork data in 2018)[25]

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Elephants	23	13	14	34	13	20	18	22	12	23	16	17
Buffalo	60	25	30	14	30	60	19	13	28	70	14	13

In this case, it wasn't so important to judge the correctness of these observations but rather to measure their impacts on the overall behaviour of the people in dealing with wildlife. On another dimension, the community believed that wildlife movements have changed in the past because of the spiritual role that they historically played:

> *"In the past these people were living harmoniously with nature, and the elephants were not coming [and wrecking crops]. We used to have masvikiro (spirit mediums) who would pray to the ancestors, asking them to stop wildlife from destroying crops or killing people. When they do this, elephant, buffaloes and all these antelopes would pass through our crop fields without eating or destroying any crop. Only when people do something against their gods, that's when we saw even baboons menacing the communities. Wildlife problems are very recent, and they are a true reflection of what our community is doing against the gods. It is a punishment." Musholo*[26]*.*

These sentiments were totally new to me and reflected deep human perceptions towards wildlife. What is it that people are doing wrong, they wondered, causing wildlife to come and punish them? This is one of the narratives that I followed and explored as a way of understanding what the old man was saying. Does this have anything to do with the

[25] Mr Fadzayi Chauke continued with these recording in my absence
[26] He is a spirit medium in the area but Musholo is not his real name.

elephants' feeding behaviour? During my stay, I listened to old folk tales and stories in general about human-wildlife interactions. Most of the stories indicated that wildlife was on the side of the whole community, especially when it had something to do with punishing wrong doers. I was told of a family called Hlatshwayo that was eaten by lions in broad day light after they were accused of killing a stranger.

Baboons are not rare in this environment; they always patrol the crop fields looking for opportunities to steal produce. However, it was not common for them to target germinating crops. They usually do not target specific, individual farms. It was in fact exceptional that wild animals would terrorise communities unless there was something that the gods were angry with. This is the most important underlying understanding when the elderly explained the present-day human-wildlife relations. Unlike the current narrative, wildlife was never seen as wild – and as such, apart from people's daily lives – but rather part of everyday supernatural plans, controlled by the gods who were spiritual in nature and who aimed to perfect human inhabitation of the earth. According to this narrative, wildlife is essentially domesticated by spiritual forces who control the crucial balance of ecology. Spiritual forces were influential in the wildlife's movements, population dynamics and feeding preferences. Wildlife is understood here as checks and balances to human behaviour in these areas and was thus never viewed as a threat to human lives. In my efforts to understand if human wildlife conflicts really existed, this perspective brought up in me many questions regarding the history of human-wildlife conflicts.

"All animals fear human beings; you can think of any dangerous animal, and it will avoid humans. Most hunters in history would tell you that they encountered situations which were so dangerous – but the wild animals would just walk away. It was when the animals were cornered or wounded that it became risky to human lives…. In the past, when I was younger than your age, we used to trace and track lions during their hunts. When they killed, we waited for some moments for them to eat and then would approach and take a piece of meat from the kill. The lions just left the kill for some few minutes

and allowed us to take and leave without any harm. The only rules were not to stay long and not to take too much. We coexisted with these animals until "the world changed". Lions know how to share space with humans, same as any other wild animal. When people complain about wildlife, it is their own fault, because their behaviour is wayward and uncontrollable". Sekuru Mlambo[27] (Fieldwork data 2018)

Sekuru Mlambo simplified what I perceived to have been a complex piece of history of human-wildlife interactions, which many tried to explain. The villagers were unable to agree about such relationships and others went even further to say that when times were hard and hunting was difficult, lions or other predators were known to bring an antelope they had killed to the hunters' camp. I realised that people are still connected to the perspectives and beliefs of the past, when it was believed that humans were not separated from nature and could share spaces equally with wildlife. That was not to say that wildlife had no negative impacts on humans, but humans viewed them as necessary and important, for example in reigning in some of their uncontrollable community members. The human wildlife interactions seemed to revolve more around competition for spaces and food, but the relation was nonetheless seen as harmonious: humans were not superior to animals but at the same level. Conflicts did not exist from a human point of view, until when this view on the positions of power changed. I tried to dig deeper into the temporal explanations of when things changed, yet my data shows that no one really knows when things shifted for the worse. Some tried to explain it in terms of colonialism and other new conservation dispensations, but ultimately there was no consensus on the matter. From my political ecology point of view, this narrative is important in arguing that some conservation notions of today are just not based on ecological proof but on the current social or political environment, which I will discuss in the coming sections as well.

[27] At 92 years old, Sekuru Mlambo is one of the oldest villagers

4.4 Discussion and Conclusion

There is evidence that colonialism was not the first influential element with respect to human-nature relationship. However, as that replacement of belief system was ultimately a matter of choice, Christianity did not eradicate every belief system; some people remained in the African traditional religion and continued practising their culture. Colonisation had a significant impact on the geopolitical aspects of life, separating people through boundaries and fences and enforcing new forms of livelihoods, but these exotic culture and beliefs were not always forced on locals – some of them were invited and embraced as modernity and development.

Human-wildlife history (HWH) can be explored to understand the current conflict-ridden situation and learn how to deal with it. Even if it is not practical to cultivate a similar environment and conditions like back then, it is possible to adapt. The notion by Mavhunga (2014) that people were much connected to the parks even if they live outside them is based on history and culture. People frequently conflicted with nature but the difference is that it was perceived as spiritual forces 'whipping offenders into line' in a life that was dominated by a spirituality. It was a crime to question the actions of the gods that manifested through wildlife or nature in general.

Midzimu and *Nghala* played a significant role in the conservation of nature through punishments and instructions that could only be interpreted by the spirit mediums, but in the present-day society, some people do not even know the mediums, and indeed, do not even believe they exist at all. The disintegration of the belief systems in the local context is blamed by the elderly residents and spirit mediums as the reason why wildlife is causing problems to the society, at the same time as the wildlife populations are declining.

This research does not support Gissibl (2016)'s perspective of an Africa that was a wildlife paradise: there were still challenges. People can be underst ood to have been living under a spiritual leadership; their resources may have been abundant, but their quality of life was not necessarily better because of it. The complex system that was reigning in those historical communities had a lot of controls over humans – they were seen as just one of the many other species that they shared spaces with. Humans have found a way to escape

blame from failure by trying to hide behind the absences of IKS and changes brought about by colonialists or Christians. Furthermore, environmental degradation has always been happening, as evidenced by the demise of the Great Zimbabwe. The social and environmental structure in this area is mainly based on the complex relations between humans and then with their nature. This is depicted by the political ecology and multispecies theories. The next chapter further discusses these complex relations by focusing on how humans persecute wildlife.

Chapter 5

Human Attacks on Wildlife

5.0 Introduction

The term human-wildlife conflict has been deemed misleading since there is usually no wildlife retaliation after human action (Redpath *et al*. 2015). Davidar (2018) suggested that it was more important to use specific terms that indicate wildlife or human action against each other rather than the blanket term HWC. Peterson also suggested that the term was technically misleading and would cause maladaptation, resulting in the decline of wildlife species or attacks on humans and their livelihoods (Peterson *et al*. 2002). Human-wildlife interactions take different forms depending on the political or spatial setup and therefore it is not ideal to use a blanket term HWC but rather refer to the actual actions. This potentially lures conservationists to use common or rather copy resolution strategies from other areas and this would not work.

Attacks on wildlife take a lot of different forms, direct and indirect, and have ultimately resulted in a significant reduction in wildlife population or genetic diversity. In this section I will discuss my findings on poaching, hunting tourism, culling, export of live animals, habitat destruction, veld fires, and poisoning as examples of how humans attacked wildlife. Data in this section was collected from secondary sources, interviews and participant observation.

Human activities have increasingly threatened the existence of wildlife species. In the previous chapter, I discussed how historical societies cohabitated with wildlife based on their belief systems, norms and primitive settlement methods that did not disturb them. Against this background, human population increase, and technological advancement are some of the factors that have made it more difficult for wildlife to cope with and compete with humans. This is probably one of the biggest debates put forward by wildlife conservation activists and ecologists that humans are causing more harm to wildlife than they are harmed by them. The manifestation of conflict is also a conflict of interest among stakeholders who have varying views on the position of wildlife in the societal hierarchy.

5.1.1 Hunting and Poaching

Zimbabwe's Parks and Wildlife Act 1975 divides hunting into two categories, illegal (Poaching) or legal (Professional), and both involve the killing of wildlife species for either sport, meat, traditional purposes or money. Conservationists blame these actions as violence against animal rights and freedom. In this regard, they believe that excessive killing of wildlife species has severely reduced the wildlife gene pool, exposing them to diseases, malnutrition and ultimately population decline. Animal rights representatives use all the opportunities they must stop hunting in all forms and to some extent they have successfully done that. In Gonarezhou National Park, the elephant population increased from about 2000 in 1997 to 11,120 in 2015[28].

In Malipati Safari Area, a reserve originally set aside for hunting under the country's Parks and Wildlife Act, hunting has been abolished following the cooperation between ZimParks and Frankfurt Zoological Society to transform the park and ban all forms of consumptive tourism. Research had revealed that there was considerable loss of species diversity due to excessive hunting (Gandiwa 2011). The question is how does legal hunting arrive at the point where it is unsustainable? The quota system is based on ecological research and an informed position on wildlife populations. According to my informants, there was no difference between legal and illegal hunters, and they all ultimately cheat the government. Chauke had the following to say on the matter:

> *'…what these hunters do is very pathetic, and it is really causing our wildlife to suffer many losses. Instead of killing, let's say, one elephant bull, they will also shoot a buffalo bull and the trophy is not declared. The game rangers are not being paid good salaries and instead of reporting to the park authorities, they will just be bribed to keep quiet. Illegal hunting is being done by trusted professional hunters and this is the reason why there is a decline of wildlife species diversity ….'*

[28] This is according to Frankfurt Zoological Society on their website fzs.org.

Of course, these sentiments are not common, but they are to some extent factual. I have observed this when hunters and their clients at a hunting camp were discussing these issues and how unethical some other professional hunters would be. Other tourists would request to kill small antelopes to practice and prepare for a big hunt. Wildlife killing or hunting is considered part of persecution against animal rights. One would think wildlife rights advocates are also present at local levels, as indicated by Chauke's views – but there are so many chains of explanation.

Hunting tourism

In this section, based on what emerged from the data, I argue that hunting tourism is another form of human attack on wildlife. To lay the ground for the argument that hunting is '*an organised killing of wildlife*'[29], I want to first discuss the hunting process and how it is an attack on wildlife in Zimbabwe. Consumptive tourism, mostly known as recreational hunting and fishing, constitutes a way in which human activities reduce or threaten the existence of wildlife species. This is regulated by national governments and sometimes by international bodies and treaties. Hunting is an old activity that was always done to provide household food requirements in many, even in the precolonial, societies. In Zimbabwe, ZimParks regulates hunting in the country by setting quotas for each hunting area. By law, a hunting quota was supposed to be set up by the ZimParks after conducting proper research on the actual population numbers of a particular species in the area. However, CAMPFIRE communities, hunting private game farmers, and forestry companies[30] give their quota proposals to the ZimParks first. Their proposals are usually just a formality because it all depends on the ZimParks data and its strategic plan.

According to ZimParks, the organisation does not do research alone but depends on various censuses and data from independent researchers and NGOs to verify the presence of those animal populations. A sustainable percentage is calculated by the ecologists and regulated

[29] According to Mr. Moyo, head of a local CBO concerned with the conservation of nature.
[30] In Zimbabwe there are forest reserves with huge populations of wildlife that are controlled by another government parastatal, Forestry Company (FC). The FC also allows hunting in its forest reserves but does not have a regulating authority like the ZimParks. This is the same with private game farmers: they can also do hunting on their farms provided they have been allocated a quota from ZimParks and hunting is done by a licensed professional hunter.

by the directorate. Elephants are the major species in the hunting quotas, as they fetch a lot of money on the hunting market.

Hunting itself was supposed to be regulated by ZimParks game rangers who always monitored the professional hunter's activities and recorded all hunts, including criminal activities. In Sengwe area, I observed that the hunting season starts in May and ends in September of every year but that does not necessarily mean the end of hunting season for professional hunters: during the hunting season some of the animals on the quotas might not be found big enough for the trophy, or there is no one interested in them, which 'forces' the professional hunter to extend the hunting season if he finds a client later. In the 2018 hunting season there were eight elephants on the Chiredzi CAMPFIRE hunting quota, one lion and 14 buffaloes. Most of the antelopes on the quotas were not hunted because no one wanted them. I interviewed one of the game rangers who accompanied the professional hunter, and he argued that hunting was difficult these years because there were fewer trophy quality animals than before. Wildlife has since deserted the hunting areas, the communal areas and safari areas, and gone into the National Parks[31]. The normal seasonal migration has adapted to the fact that there is usually a lot of hunting activities outside the park during the dry season of every year.

Further ways in which professional hunters harm wildlife

i) *The use of bait to hunt big cats*: during hunting expeditions for carnivores, hunters usually kill small antelopes that they use as bait for the big cats. This is only legal if the bait has been included in the hunting quota and paid for. However, there was a tendency to overkill in the name of 'killing for bait' and many antelope would be unaccounted for by the professional hunters. Unfortunately, these are some of the incentives given to game rangers for them to not to expose illicit activities during hunting including money, meat, and other gifts.

ii) *Hunting mistakes*: sometimes during a hunting mission, the hunter may kill an unintended animal after missing the right one. This is common and sometimes intentional. Under the law in Zimbabwe, this mistake must be reported to

[31] In Zimbabwe safari hunting in the national parks is prohibited under the Parks and Wildlife Act of 1975.

ZimParks immediately and a penalty must be paid. This also happens quasi-intentionally when a hunter notices a good trophy on a species that is not on the quota or that they have not paid for. However, mistakes during hunting can truly happen because some of the hunts are done during dawn or dusk, when animals can be difficult to target.

iii) *Self -protection from a dangerous animal charge*: The Parks and Wildlife laws in Zimbabwe allows tour guides, including professional hunters, to use lethal means to protect their clients from dangerous wildlife charges or encounters. This can naturally happen in the wild due to how close people come to wildlife. However, some of my informants confided that some hunters would shoot a buffalo for meat and report it as self-protection. I could not substantiate these claims, but they seem logical.

iv) *Habitat destruction*: During hunting a lot of habitat destruction and tempering with the ecosystems occurs in these areas. One of the major problems is that hunting can be done during the breeding season of most species, impacting negatively on the reproduction of those species. In these areas, makeshift roads are sometimes paved for the safari vehicle to penetrate areas that are usually inaccessible, and in the process, they disturb ecosystems. Due to the love for adventurous encounters, most hunting tourists would want to camp in the safari areas, close to the wildlife, lighting fires and making noise. This disturbs wildlife and infringes upon their freedom.

5.1.2 Poaching

Like hunting tourism, poaching as it is defined is an unregulated, illegal form of hunting. Under the Parks and Wildlife Act of 1975 it is defined as extractive use of wildlife or their parts without a licence or permission. It also includes breaking hunting laws even if one has proper hunting licence, as I discussed above. Private game farmers must also acquire a special permit to be allowed extract wildlife products and kill wildlife on their game farms – otherwise it is also another form of poaching. In this case, breeding wildlife species is allowed and those animals that have been produced are private and included in the quota system.

I was interested to discover if this term had existed before the colonisation of African states, which would be discernible by its existence in languages, stories and idioms, as Mavhunga (2014) had argued. Even if poaching existed throughout history, in my research on African stories in three (3) languages, Shona, Ndebele and Shangaan, I never heard any mention of a word that means poaching. The only act that came close to what poaching is today is the killing of an animal of your totem, or of sacred animals. These, however, were spiritually (as opposed to legally) regulated taboos and they were not expected on a frequent basis. In this section I wanted to relate community perceptions to poaching and the actual poaching activities as defined by law. Antipoaching in Zimbabwe is successful where communities living close to conservation areas are cooperative and have a full understanding of the negative effects of poaching (Duffy 1999).

Precolonial hunting methods were not harmful to wildlife populations, because people hunted mainly to feed a small number of people – the human population was significantly smaller. Weak animals– namely the old and sick – were targeted by the hunters. Usually, these animals would also be targeted by predators in the area and would therefore die anyhow. Two villagers who were once convicted for poaching in Gonarezhou National Park, whom I interviewed at the same time, agreed on this point:

> *'… We used traditional hunting methods and targeted only small antelopes that can feed our families. We never sold any meat to anyone but only shared it in our households. The government has criminalised this kind of hunting, which has been done throughout history by our ancestors, even though they left us with vast populations of all species. The introduction of national parks was the beginning of the wildlife population decline because those with sophisticated hunting weapons were allowed to hunt and they killed them in large numbers, not us with bow and arrow or just dogs. We are an insignificant factor in this poaching debate. … it would make sense if the government gave those who live close to the national parks some permits to hunt and kill some species for their family consumption. If what they call poaching is so bad, why are the wildlife*

populations still declining when there are game rangers everywhere protection the parks? All we are saying is that there are real threats to wildlife that are not us local hunters…'

The interview excerpt above shows that people who have been convicted of poaching in this local setting are still not convinced that their deeds were wrong and still believe that the state was not doing enough to allocate wildlife ownership rights to the local communities. The interviewees believe their hunting methods do not in any way harm biodiversity and was also even necessary to remove weak and old animals. My own observations, however, showed something different: poachers also target large herbivore like Buffalo, Kudus, Zebra and Eland – not the small antelopes they alluded to. Of course, there are two distinct categories of poaching in the Sengwe area: localised poaching for supplementary food and business-related, highly sophisticated poaching syndicates. The interviewees were basically representing the localised poaching group.

In Zimbabwe, as well as in Mozambique, South Africa and Botswana, there are poaching syndicates that have an international network and they really pose a huge threat to conservation efforts in these countries. Between the years 2013 and 2015, there were numerous elephant poisoning cases in these countries. As shown in the picture below (Fig 19), most of the elephant carcasses that were found had been dehorned and the tusks were never recovered. The poaching activities using poison had ripple effects on other species, which were killed passively in huge numbers, as shown in the section below (Fig 19). I interviewed one of the game rangers who responded to these poaching activities as a community member of the ZimParks antipoaching unity, Chauke (not the real name), who said:

'…it was in the evening when we were tipped off to the presence of suspicious vehicles in the park close to the Sengwe communal area. We followed the directions that were given and what we saw was so devastating – there were many elephants, fifty (50) to be precise, that

were dead at a water point. The blood was still fresh and it showed that people had been present a few moments before. What was also wrong about this incident was the number of young elephants that had not grown tusks were also killed and left like that. We followed the tracks of the vehicles into Mozambique to a point where they just vanished. We suspected that a helicopter had been used to carry the contraband further. This happened in September 2014 and until now no one has been convicted of those poaching activities. After that incident were discovered other rotten carcases some weeks later in various areas of both the community and national park. Our local poachers have no capacity to do such operations; maybe they assisted the big gangs – we don't know'.

Chauke's narration of events was supported by other game rangers in the area, who have witnessed mysterious activities of poaching syndicates in and around the Gonarezhou National Park. Poachers normally use nearby communities as gate ways into the conservation areas using local community members. However, Zimbabwe Republic Police (ZRP) records indicate that there were some arrests in connection with wildlife poisoning around Gonarezhou National Park. The biggest challenge was the penalties involved: the fines or jail terms were too low to deter poachers who aimed to make huge profits from poaching.

How many animals had been snared, killed or wounded by poachers? I did not witness any poaching incidents during my fieldwork in Sengwe but did hear about them happening in other areas outside my area and time frame. It is important, however, to know that there are always threats of poaching and suspicion from the authorities that locals are involved in poaching syndicates in and around the park. It is a constant and continuing issue.

5.1.3 Wildlife poisoning.

Wildlife poisoning has always been viewed in terms of how and which species are targeted. Often there are medicinal or spiritual reasons why some species are killed through this method. However, the reasons for the killing, in this case, are not as important as the circumstances that caused other wildlife to be killed. In the picture (Fig 20) below hundreds

of the already threatened White-backed vulture were poisoned and died in GLTP after feeding on poisoned elephant carcasses in 2015.

Figure 20. Poisoned Elephants in Zimbabwe's national parks

There is a recurrent problem of elephant poisoning using cyanide in Zimbabwe's national parks and this has a huge ecological impact. Besides being at the end of the food chain, which automatically leads to their death by poison, vultures are sometimes intentionally poisoned for two reasons: they are used in witchcraft rituals; and are also killed by poachers themselves, because when poachers make a kill, the vultures circle, thus alerting authorities to the poaching activity. However, in the communities, vultures are not the only animals that are poisoned; there is a long history of hyena, eagle and black-backed jackal poisoning as a way to protect domestic animals from frequent predation.

Figure 21. White-backed vultures poisoned at an elephant carcass. Photo/GL Transfrontier Park [32]

During my fieldwork, I never observed a fresh poisoned wild animal, but it is and active part of the community's oral history that such things have happened in the past. It is important to note that data concerning elephant poisoning is censored because of the political implications it had during those times. It was difficult to get the correct statistics from authorities and the data I relied upon is thus from third party sources. Depending on which type of media, state or private, that information was so different and couldn't have relied on it to know what had really happened. However, the data pointed to the fact that various human activities in or around the GLTFP have resulted in the poisoning of wildlife, that is also a manifestation of HWC. But the most talked about is elephant poisoning in and around GNP as well as in Hwange National Park. Because the poisoning activities had something to do with poaching, I discussed it extensively in that section.

In the picture above, elephant carcasses on the ground were poisoned and dehorned, and were now decomposing. Police officers in grey and blue and game rangers in green clothing were investigating the causes and trying to find ways of protecting other species from being contaminated. This incident occurred between 2013 and 2015 but the ripple on effects of the cyanide poison could still be felt even in the recent years. The biggest challenge had

[32] This picture was published in a story in the *EastAfrican* Magazine of May 23 2014.

been to eliminate the poison from the food chain and underground water resources. According to one officer who responded to these incidences of poisoning, Constable Mlambo,

> *'Wildlife poisoning was a big problem during those times, and it was not only threatening elephants as people were made to believe we found Kudus, Buffaloes, small antelopes, vultures, hyenas and other carnivores dead at these water holes. During the investigations we did not look at poaching as the possible cause of poisoning, but also the mining upstream. Mining operations also use mercury, which can be dangerous if ingested by living organisms, but in this case, scientists singled out cyanide. Our responses were quick, but the poachers were quicker, and we believe they worked with someone within the game ranger's group. We were then able to arrest two poachers after weeks of investigations and they were of Mozambique nationality. There is a big challenge with respect to when should the police be involved and when the parks personnel can do the job – because resources were always limited. Poachers of this calibre are dangerous, and they should be approached as if you are going to war; they would not hesitate to shoot to kill, if need be.'*

The gold mining operations in Mutare area and diamond mining in Chiadzwa surely did not have contaminated water as far down as Gonarezhou National Park when no poisoning incidents were recorded in the areas upstream.

5.1.4 Human encroachment into wildlife habitat

Conservationists and wildlife authorities believe that there are some conflicts related to human encroachment in wildlife habitats through settlement, herding cattle and harvesting of non-timber products. Even if these activities provide some basic human needs, they are deemed to infringe on wildlife rights of movement within protected areas. About 7,000[33]

[33] Village data that I believed to have been updated showed this number and there are still 10 villages. However, the population is likely to increase in the future because of the new arrivals of those who were left out of the land reclamation process within the park.

people have been resettled inside Gonarezhou National Park through Zimbabwe's Fast Track land redistribution programme in the year 2000. Of course, the net effect is believed to have been the shifting of habitats by wildlife to the southern parts of the park and into Kruger National Park in South Africa. Resettling in the park is part of how the community is justifying the liberation struggle, which was meant to reverse some colonial injustices, especially displacement and land grabbing. The number of HWC have escalated in areas close to the national park due to the increased human activities in areas that used to be buffer zones. As I have noted in sections above, the already high risk of being endangered by wildlife increases as people venture into the protected areas for whatever reasons, due to the conflicts for space and food. Figure 21 shows a picture of cattle grazing at the edges of the Malipati Safari Area (B) next to the communal area where they are *expected* to graze (A). Due to consistent soil erosion, the communal areas in Chiredzi look almost the same as Figure 20A, which explains why the wildlife are looking for other grazing zones.

A *Communal area grazing land*

B *Grazing within the Malipati Safari area*

Figure 21 Livestock grazing in Gonarezhou Park (Source: field data 2019).

As part of my data collection, I accompanied herders during their daily activities to observe the frequency of such grazing activities and the areas that are used. During those days we discussed – among other things –human wildlife conflicts. About 45% of grazing time was spent in the GNP or the safari area despite how illegal it is. Outside the park, it is not easy to find suitable grazing areas and even if they do, they are too difficult to reach daily (Fig 21 A). During the rainy season, it is much easier to find grazing areas than during the dry season but that is also the time large herbivore, buffalo, elephants and some antelopes are likely to cross into human settlements.

5.1.5 Problem Animal Control (PAC) and disputes

Problem Animals (PA) as stated in the Parks and Wildlife Act 1975 8th Schedule are baboons, the Painted Wild Dog, the Spotted Hyena and the Black-backed Jackal. These should be controlled through various ways to minimise, avoid and mitigate their impact on humans. Therefore, the state authorities found out that there should be a systematic way of doing it to avoid abuse, at the same time protecting humans from wildlife. However, it is only when animals impede or harm human beings or their known livelihoods that it is defined as problem. The ZimParks, as it is now known, has the mandate to define and authorise PAC.

From my experience, Rural District Councils (RDCs) are at the centre of this programme to control problem animals on behalf of communities, and they do so through a professional hunter. It is in the interest of communities that each time wildlife harms them or their livelihoods, they report to the RDC or directly to the professional hunter for something to be done. PAC targets not only elephants, but in Sengwe also crocodiles and to a lesser extent, buffaloes. Communities are excited by an elephant kill on PAC because it directly provides meat, and it means there will be days when they will not torment them in the crop fields.

*Figure 22. An elephant was shot the previous night in PAC (*source: fieldwork data, 2019*)*[34]

The pictures above show three (3) different incidents when elephants were hunted down to control their frequent destruction of agricultural operations. In the last picture, crops (sorghum) were trampled by both elephants and people. When crops are of that size, elephants do not cause too much harm but killing them functions as a deterrent for the rest of the season.

The argument that animal rights groups put forward is that shooting the head of the elephant herd, which is usually the oldest female, causes group disintegration and stress among the ones that are left behind. The shootings can happen at night when hunters might not be able to distinguish the animals' ages, much less the social structure of the elephant group. This has a huge impact on the ecosystem dynamics and population balances in the

[34]The community task after the elephant shooting of the previous night is to skin the elephant and distribute the meat among community members. Some families could get more than 10kg, whilst others get as little as a single kilogram, and this uneven distribution of meat is a great source of dispute among villagers.

elephant herds. PAC itself is another source of disappointment to communities because of what they call 'abuses' by authorities and hunters. The communities also argue that there are always excuses from authorities to let the elephants roam around crop fields without any consequences to the elephants. Village head Mr. Mpilo[35] had his own views:

> *'For years we have complained that we can't really have meaningful lives if nothing is done about the elephants and other wildlife. It seems as if we are not important because it takes maybe the whole year for them[36] to come and do something. Is it because we are immigrants? If that is the case, they should allow us to go back to our original places where we can be happy again. They are doing things that favour animals, not us human beings. It's not fair… how do you think we can protect ourselves from elephants if we cannot even harm them?'*

Community challenges are complex as aptly described by Mr. Mpilo, and there are always various chains of explanation to all these dynamics. The interview brought in issues of migration as a factor that magnifies PAC problems and settles historical imbalances. PAC directly provides meat and CAMPFIRE revenues through the selling of the trophies. Instead of being a solution to HWC, some hard-line conservationists believe it is one of the ways in which people infringe upon wildlife rights by limiting their movements and preventing their abuse of the facility. Conservationists are currently researching ways to limit wildlife movement only when important and necessary to effectively reduce any negative impacts on communities.

5.1.6 Veld fires

Fire is also one of the major threats to wildlife in Sengwe communal areas and GNP in general. Outside the farming season, fire is a highly frequent phenomenon in most rural areas in Zimbabwe due to high biomass and the use of fire in slash burning. According to (Goodwin 1998) fire is among the three major problems in Gonarezhou National Park, along

[35] Not the real name.
[36] Professional hunter to come and either scare or shoot elephants.

with poaching and droughts, which result in huge wildlife mortalities. Gandiwa (2012) suggested that there was a high correlation between the frequency of veld fires and tree mortality in the northern part of GNP. Veld fires were more frequent in the areas bordering communal land and in the GNP its season is longer than other communal areas due to the aridity of the area. This has also caused the fire magnitudes to be bigger and affect more areas as well as the biodiversity. The biggest challenge with fire is that it kills small animals, other slow-moving big ones, and in the long term makes the area less habitable for all the species. In Sengwe communal lands, we recorded 34 veld fires between October 2016 and September 2019; 15 of them had escaped from GNP. During the same period, 10 villagers were arrested and fined by the traditional leadership for causing and failing to contain veld fires.

Major causes of veld fires in the GNP area

1) *Slash-and-burn in communal areas*: After harvesting crops in the communal areas, farmers usually slash–and-burn the previous crops in preparation for the next farming season. If this is done on a windy day, there is a likelihood that the fire would get out of hand and spread. Due to the proximity of savanna woodlands with dry vegetation cover, fire spreads easily, even into the GNP. Of the 34 veld fires we recorded, nine of them were caused by farmers from slash-and-burn activities. According to the local agricultural extension officers, slash-and-burn methods were no longer allowed under the Zimbabwean law because of its impact on the global temperatures and the emergence of conservation farming, which encourages the use of fire to create organic fertilisers. This can be done anywhere, and the penalties are not prohibitive; moreover, corruption by law enforcement personnel makes it difficult to curb these fires.
2) *Poachers*: What follows has been very difficult to substantiate because of the nature of how poachers operate, however, according to my informants, some of whom had been in the poaching business, some of the poachers' hunting operations involved using fire as a trap for wildlife, making it easy to kill the animals. Poachers would make hunting camps at which they used fire to dry the wild meat and cook their food. When they left these camps, they would normally put out the fires because they did not want game rangers to trace them. In certain circumstances, however, the poachers apparently did not have enough time to put out the fire and this is usually when they got out of hand

and spread to a huge area. Of the total number of fires recorded between October 2016 and September 2019, 20 of them were likely to have been started by poachers. These were the most destructive in nature due the fact that they started at the heart of the park where it took responders a long time to reach, destroying thousands of hectares and killing a lot of species along the way. Unfortunately, there have been no arrests in connection with these fires because of the elusive behaviour of poachers. We have done walks through areas after veld fires to ascertain the extent of the damage and noticed that insects and birds were the worst affected.

3) *Tourists*: in the Gonarezhou National Park and the surrounding Sengwe community, tourism was no longer as vibrant as in the past, resulting in most of the facilities in the park being redundant. This should be an advantage in terms of wildlife movements and habitat restoration. In the same period mentioned above there were only three veld fires that might have been started by tourists in the area. Some of these fires can be traced back to cigarette butts that where not properly disposed of. The only advantage with fires was that they were quickly noticed and dealt with immediately, minimising the damage to the environment. These veld fires were recorded between June and July when the vegetation was still moist, thus reducing the magnitude of the fire. Even these fires of low magnitude have impacts on species diversity and result in significant ecological alterations.

4) Lightning and other natural causes: natural phenomenon have also been associated with fire in the Gonarezhou area and of the 34 veld fires recorded, two of them were caused by lightning. This was not so dangerous because it happened in the last month of the dry season, November, just when it's about to rain. The fires were thus quickly stopped by rain showers. As the numbers show, lightning fires are rare and in the field of nature conservation they are not usually talked about.

5) Passers-by: This is another group that is blamed by the parks officials for causing unnecessary disturbances in the park including starting fires and harvesting fruits as they pass by. Gonarezhou National Park separates villages that share some important ancestral roots, forcing them to pass frequently through the park when they visit each

other. This is normally prohibited under the law, but they do it anyway. It is noteworthy that during my fieldwork I did not record any incident in which fire was started by passers-by who were not classified as poachers.

Local perceptions of veld fires and fire management

Almost all rural districts in Zimbabwe have local Environment Committees (EC) that help in the protection of nature. Their major role is to educate about and implement fire protection and environmental management practices. Local members of the community have different views as to how fire is started and how it is supposed to be used. According to one of the village heads, Manzini, who is also a member of the EC:

> *'…people do not care about fire management when it comes to the Park because they think it is the duty of ZimParks. However, a lot of fires that come from our communal lands are causing wildlife to go further into the park during the hunting season when we need them to be close to us. They will only return to cause harm to us during the wet season when we don't need them at all. … the problem is that we have a culture of using fire in some of our daily activities like harvesting honey from natural beehives and it doesn't seem criminal at all. We are in the process of educating our people on the effects of fires on our environment as we have also been taught by Environmental Management Agency (EMA). … We are empowered to arrest and impose fines on the causers of veld fires, but the penalties are just so little you cannot even use it to buy one hen (chicken)[37]. Fire causes a lot of damage to wildlife in and outside the park. Last month we walked around to see the impacts after a major fire outbreak, and we counted 14 snakes, 26 birds and insects that had been burnt to charcoal in area that I can say was 2000 hectares.'*

The issues that the village head pointed out were very critical in this matter, as I also observed the same trends. After major veld fires, the savanna woodlands look so lifeless that it is very easy to spot the few animals that have nowhere left to hide. Fire creates very

[37] In this area a hen costs about two American dollars (US$2.00)

huge ecosystem imbalances and gives predators an unfair advantage over their prey. I also observed that environmental education in the community is not taken seriously, and people blame the Environment Committee (EC) members of being used by the local government to suppress them through unrealistic laws.

5.1.7 Culling

Culling is the reduction of a wildlife population through selective slaughter. It is the periodic and planned to kill of elephants – herds, families and or individuals (Hoyt 1994). Culling has mainly been used to reduce elephant, hyena and sometimes baboon populations that were growing too rapidly in the past in Zimbabwe. There has been a huge debate on how to deal with the growing numbers of elephants in Zimbabwe, since their habitats have reached the carrying capacity, further threatening the existence of other species. In Gonarezhou National Park, elephants have left trails of destruction due to their feeding behaviour, prompting conservation authorities to search for various ways of dealing with it. The argument from ZimParks and the government of Zimbabwe has always been that they be allowed to trade in live elephants or their products without CITES limitations.

The history of culling in Zimbabwe

According to Booth (1989) elephant culling started around 1960 in Zimbabwe and by 1988 more than 44,000 had been killed. Despite this huge number of culled animals, the elephant population increased from 32,700 to more than 51,000 during the same period (ibid). Before 1986, culling operations were informed or influenced by scientific recommendations. This was before international lobby groups started to have a significant impact. When international treaties like CITES started to have an impact on the conservation of wildlife, politicians started to use the threat to cull as a way of attracting donations from the conservation enthusiasts (Child 2004). Against this background, culling became a tool for raising funds for both conservation and for the state. According to Child (1995), culling elephants had financial benefits through the sale of meat to the local community and of hides to the taxidermy companies in the country. It was also beneficial in creating good relationships with the local communities, who felt that they were really on the conservation programmes by reducing the elephant burden in their crop fields and supplementing the

need for food. From my observations, if done properly culling can help the habitats to sustain both elephant and other species population within the decreasing geographical space in GLTFCA.

5.1.8 Export of Live Animals

During my fieldwork there was news that Zimbabwe was exporting live elephants to China. Of course, there were other species that were being sold in this manner, but they did not attract as much attention as the elephants. This trade option was an easy one for Zimbabwe, since it has a strong alliance with China. According to Human Society International Europe[38], in 2019 Zimbabwe exported 30 baby elephants to China after it had successfully sold 90 of them to Dubai for US$2.7 million (Guy *et al* 2019). Between 2012 and 2019 it is believed that Zimbabwe exported 108 live elephants to China against the will of animal rights groups and the principles of CITES. The major problem that has been raised by those advocating for animals is that animal welfare was not taken into consideration during transportation, nor in the Chinese zoos.

The development of the commoditisation of wildlife species had been perfected by private game reserves working within state regulations, but on other species – not elephants. The sale of elephants was also condemned by the CAMPFIRE groups who felt that they no longer had the rights to benefit from elephant sales. It was only the ZimParks that can claim ownership of the elephants. This is also the opinion of Zimbabwe Elephant Foundation[39] which opinionated that wildlife belongs to the citizens of the country and that they should therefore be consulted if those animals go up for sale. They argued that sale was unconstitutional and in a democratic country, such things could have been stopped.

In Sengwe about 45% (n=215) of my informants were not aware that Zimbabwe was selling elephants to China; but even in their ignorance, they expressed anger at the possibility of such a thing occurring. Of the other 55% who expressed knowledge of such sales, about 30% of them had attended workshops with park officials and were led to believe that some of

[38] https://www.hsi.org/news-media/zimbabwe-exports-baby-elephants-chinese-zoos-video/

[39] Ibid

the revenues would still find their way into CAMPFIRE accounts. The rest of the interviewees – who by and large had some spiritual attachment to wildlife – believed that the government did not do enough work to consult CAMPFIRE groups and people living with wildlife. Against this background, a spirit medium, said that

> *"selling our wildlife was like selling our souls to China and it made them lose their dignity. Some of these animals should not have been sold – they should rather have died here. Our ancestors are very angry with our behaviour and how they were driven by the need to make more money instead of looking at our culture and traditions. It is unheard of that China or whatever country has our wildlife. During the colonial periods, our artefacts were taken by the British to England and now a symbol of our Zimbabwe Bird has been returned because our ancestors were not happy. It's a simple statue – not the real one, so what about the* live *animals? Unfortunately, we are living like a headless chicken waiting for the eagle to come and take it away…"*

Of course, I had an idea of the kind of responses I would receive from a spirit medium, but this response revealed to me how humans are connected to the wildlife. In this situation, it shows that even if the local members of the community participate in the park's decision-making processes, the park officials are even below the levels that are making decisions. I was unable to track how the money from the sale of elephants was distributed so as to verify the claims by CAMPFIRE groups that they were not entitled to it. Neither culling nor the export of live animals was supported at the local levels, nor by lobby groups, on the grounds that they are attacks on wildlife welfare and rights.

5.2 Discussion and conclusion

As indicated by the findings in this chapter, human wildlife conflict is an umbrella term to describe a plethora of negative impacts of either human or wildlife activities performed against each other. Contrary to Davidar's accusation (2018) that HWC is misleading, my research reveals that it does not matter which term is used to narrate or describe human wildlife interactions: there are human activities that are either purposefully or

unintentionally directed at harming wildlife populations or diversity, but in any case, it is important to specify the human activity that is currently impacting wildlife for purposes of record and clarity, in addition to the need to allocate resources in responding to them. As my results indicate, it was important to map the relationships among negative human activities on wildlife because the adaptation mechanisms for one could solve the other.

Hunting is another way that humans kill wildlife and any way one looks at it, it is negative. The argument put forward by conservation officials that it helps to fund conservation activities while at the same time maintaining sustainable populations of various species is understandable, however, licensed hunting can only be beneficial if rules are followed, contrary to what I found out – that some professional hunters were not honest and are at times greedy. This threatens biodiversity and the integrity of the hunting industry. There is a thin line separating legal hunting and poaching; professional hunters who are entrusted with wildlife can turn into poachers for various reasons. Hunters and clients can make mistakes by shooting an unintended target, another animal further threatening the wildlife populations.

This study concurs with other ZPWMA, *Gonarezhou National Park Management Plan (2011-2011)* that consumptive tourism in Gonarezhou area is based on elephant hunting, while other species do not seem to be important. This does not mean that they are not on the hunting quotas; the threat to these species is little understood and others are even on the verge of extinction. The hunting of elephants is overemphasised because of their marketability and profitability, on top of the fact that because of their size, they are more influential to their habitat stability than any other species.

Poaching, which is closely related to legal hunting, is one of the major problems that the conservation authorities are struggling with in Zimbabwe. It ranges from localised hunting of small animals to sophisticated hunting methods that include the poisoning of wildlife. From this research, the major problem with poaching is the lack of deterrent punishments for poachers and the lack of resources to respond to suspicious activities in the conservation areas. As is the case in the other chapters, the community does not believe that poaching by local villagers is the real crime; neither is it the major problem – it is first and foremost the foreign, highly armed commercial poachers that the law enforcement agents must deal

with. Lack of incentives from the park are pointed out as one of the reasons why poaching at the local level is rampant (also see Duffy 2000 on this matter).

As with poaching, wildlife poisoning has recently been one of the challenges pushing other wildlife species into local extinction and thus threatening biodiversity. Wildlife poisoning has received international attention and coverage from international media, but the problem has not been stopped. This study has established the linkage between poaching and poisoning, but these chemicals persist in the ecosystem. Vultures are high in the food chain, which indicates that the poisons had affected all levels in the food chain. The authorities have been blamed for their slow reaction to these issues, which is causing more animals to die.

Elephants are the most targeted species in problem animal control, even if they are not the only problem animals in the Sengwe area. Killing the animals by 'culling' is justified by both the locals and conservation officials as one of the ways of effectively reducing the number of wildlife species. The increased number of problem animals is a direct result of the increased population of that species. The fact that local communities were not satisfied by the responses to problem animals was not new to this research, as other scholars (Mupangwa 2006) have also made similar conclusions on the issue. Another relevant point is made by Duffy (2000): killing problem wildlife and sharing the animal meat among community members is helpful in the conservation of that species, since it brings value and a sense of ownership or responsibility.

Culling has mainly been used to reduce the number of elephants within the park boundaries. It has been stopped because of the improvement of the elephant home ranges through the implantation of the GLTFCA. Singer (1986) noted that culling looks unethical when it is being done but it has better results if it is done properly because it takes other species into consideration. This is echoed in Tom's (2002) argument that animals have souls and they do not just live in the forests but have social, religious and spiritual values that should not just be terminated without proper consideration. These species would otherwise have died due to habitat destruction. The ethics of the export of live animals has not been discussed in the previous studies with respect to the GNP area. Having followed up on the wildlife species in those destination zoos, where the deterioration in their welfare is

apparent, I therefore believe that it is an equal threat to the wildlife's existence compared to the other threats already discussed.

From this study, veld fire was seen as an anthropogenic rather than a natural threat, and most of the fires could have been avoided. Besides the destruction of wildlife habitats, fire targets slow-moving species, directly reducing biodiversity. As regards to the northern part of Gonarezhou National Park, Gandiwa (2012) concluded that the frequent fires were indeed causing loss in biodiversity. In the same vein, fire from within the communal lands moving into the park have pushed wildlife into the heart of the park, whence they only return during the wet season to cause damages to crop. Human activities also impact wildlife through habitat destruction caused by settlement expansion, especially land grabbing in the park and private game farms, fire, to name but a few causes.

In conclusion, this study adds some more information to the debate on how human activities are impacting the wildlife population. At the same time, it highlights some of the advantages of such interventions, as they are meant to protect the habitats rather than to wipe out wildlife species. Contrary to Redpath *et al* (2015), wherein problem wildlife allegedly acts in retaliation to human activities, my study did not find any menacing intent between humans and wildlife. Humans – as well as animals – do what they do because of their own circumstances and the need to survive.

Chapter 6

Cases of wildlife attacks on humans, livestock and crop damage.

6.0 Introduction

Wildlife attacks on humans, crops and livestock is a specific type of HWC that has a slight bias towards humans and their livelihoods, as I have mentioned in the previous chapters. In this chapter I discuss cases of how wildlife actions negatively impact humans, crops and livestock, giving an account of cases that were recorded in the area where this study was based. Perceptions and views that further determine the relationship between wildlife and the so-called antagonists were also at the centre of this chapter. As I discussed in the previous chapter, humans are threatening the existence of wildlife, this is another example of how HWC manifests itself. The existence of these attacks is usually acknowledged by conservationists, researchers and the community (Duffy 2000). This gave me the drive to study them.

What in fact are wildlife attacks on humans? Do wildlife attack humans and livestock in Sengwe communal lands? These are some of the questions that this chapter seeks to answer. Human wildlife conflicts, according to various experts I interviewed, always result in negative impacts on wildlife and other natural resources in general, more than it does on human beings. This forms the basis of my argument throughout the chapter as I describe human perceptions in relation to the reality of the field according to my findings. In this section I want to argue that manifestations of HWC are usually a retaliation against human encroachment on wildlife habitat and resources, and I argue this against a less common reason that human-human conflicts based on wildlife are at the bottom of human-wildlife conflicts. I discuss the frequency and magnitude of wildlife's perceived negative impacts on human beings in Sengwe. The impact includes damage to crops, livestock, and to other forms of human livelihoods. Since I have detailed human impact on wildlife in the previous chapter, this chapter will be biased towards wildlife's impact on humans.

6.1 Destruction of crops

Wild animals are regarded as critical determinants in crop production in Sengwe since their activities have a direct impact on the success or failure of crop productivity. The frequency

of wildlife visits to croplands has a direct influence on the overall farm output in the respective farming season, which is the basis for my further investigation into this subject. Apart from the historical perceptions that wildlife are "*spiritual*" objects in Chapter 5 of this thesis, the community indicated that they were always in conflict with wildlife, especially elephants and quelea birds in their crop fields throughout history. As a result, the community has designed ways to mitigate and save their livelihoods.

It is very difficult to chase wildlife away using the traditional methods, when they are already in the fields. Traditional methods of chasing elephants include using dogs, beating drums or making other noises which will be discussed in Chapter 8. According to the government documents in Malipati[40], about 25% of crops in the area were destroyed by elephants every year, exposing more than 200 families to hunger. Sengwe is semi-arid to arid and small grains such as sorghum and millet are the most successful drought-resistant crops, but they are also favoured by both elephants and quelea birds. This leads farmers to devote inordinate amounts of time each day battling the elephants and quelea birds, because of the of the extra layer of labour committed to it. The amount of time spent on mitigating or avoiding crop decimation by wildlife is very important in human decision-making processes. According to village head Mr Manzini:-

> *"It does not make any sense that you spend the whole day in the fields only to harvest a bucket of sorghum. We cannot just ignore elephants or baboons destroy what we have planted and suffered for."*

The argument that people are doing what they can to protect themselves was very strong and supported by whole community.

From the time I was in Sengwe, we counted the frequency with which elephants were in the various crop fields: maize, small grains, watermelons and ground nuts. We also counted the number of elephant tracks or droppings, which indicated their presence in each of the fields over a period of three months (January through March). We did this to measure the frequency of elephant visits against the perceived or actual crop damages reported. Because of mechanisms to deter them from the fields, I also considered the tracks about one

[40] Malipati is a business centre found in Sengwe ward. It acts as the ward centre and the offices of governments are located here

thousand (1000) metres from the fields in case they were scared away before they arrived in the crop fields. The idea was to find out if these crops are truly favoured by elephants, i.e. if the elephants were targeting these crops in particular or if it was coincidental. Besides that, we also counted the number of times each of the above crops was damaged by elephants on a particular day in the three months I mentioned. The four crop plots were located on the edges, facing the Malipati Safari Area without any physical barriers/ fences to block them from entering. Fig 22 below shows the result: elephants favour sorghum above all other plants.

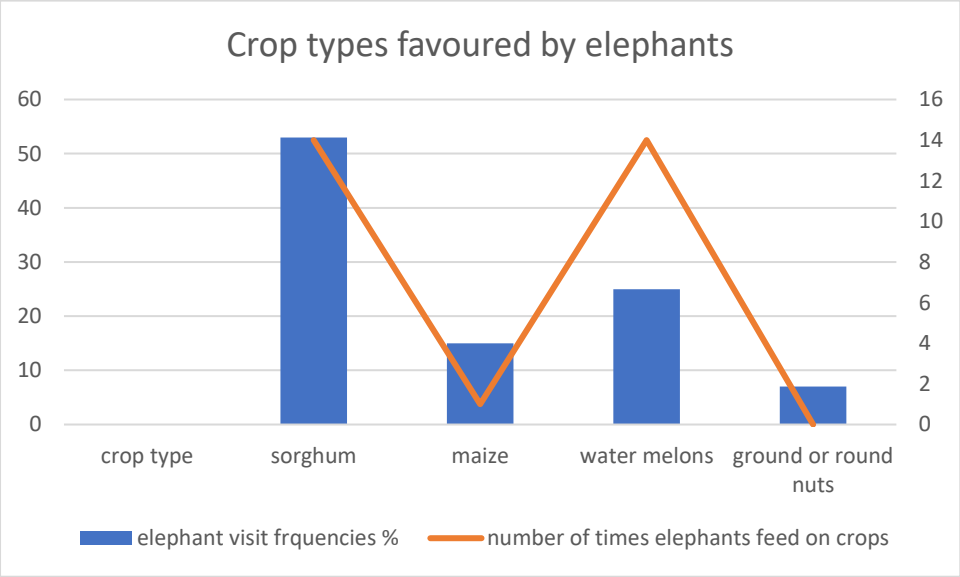


Figure 22. Elephant visits to crop fields over a period of 12 months (Source: Village data 2019)

Sorghum is a very important crop in the household food basket and people would do all they could to protect it. It plays an important role in traditional uses such as spiritual appeasements and rain-calling ceremonies as well as immediate food requirements. It is one of the most successful crops in the region due to its drought resistance.

Table 10. Number of times each of the wildlife species entered crop fields in the 2018 cropping season

Wildlife species	No. of times seen in the crop fields	No. of time deterred	No. of signs, tracks or crop damage recorded
Elephant	24	3	23
Baboon	45	30	35
Warthog	33	2 times daily	28
Quelea birds	Uncountable	4 times a day	-
Francolins	Uncountable	Uncountable	-

These findings were also supported by qualitative data, which revealed that elephants target the villagers' major sources of livelihoods, and this is a source of great anger among the farmers, resulting in a protracted fight against elephants. HWC, according to this perception, are heavily related to the magnitude at which elephants destroy crops. According to one informant, Chauke,

> *"…we are angry, and we have to do whatever we can to protect ourselves from these animals. Of course, we do not have the capacity to deal with elephants because they are protected by law and have more "value" than our livelihoods. … Recently there were some poisoned elephants found close to the national park. I don't know who did that, but I think it has something to do with our crops. When people are angry you would not even know what they will do to these animals."*

There was a rumour that the elephants were poisoned in retaliation for their crop destruction. This however was dispelled by other informants, who believed that the poisoning was mainly done by poachers who had financial interests only and who did not even care about the community or conservation of their heritage. This view was also

supported by scholars who had previously been in the area[41]. The common concern is that people within this community are so disappointed with park authorities for the lack of interest in protecting human life and their prioritization of the animals above the people themselves. In this respect, when communities make decisions, they are towards their livelihoods over wildlife protection. While it is important to note that this kind of conflict occurs when wildlife encroaches upon human settlements, what makes these conflicts so frequent is the proximity of the crop fields to the protected area. Most of the affected crop fields are within 2km from the park or safari area, which used to be a wildlife buffer zone before the implementation of the GLTP. The presence of wildlife in the people's daily activities is one of the factors that causes negative perceptions in decision making. There are some lethal chemicals and pesticides that are used by farmers to deter and kill wildlife, a method which is illegal under the Environmental Management Act 2003.

6.2 Livestock depredation

In Zimbabwe, in general, there is a long history of wildlife attacks on livestock, albeit the magnitude and impact thereof vary greatly. In this section I will detail how wildlife preys on livestock in Sengwe. There was an abnormally high number of cases of wildlife attacks on livestock in this area, unlike other typical rural areas in Zimbabwe where the spotted hyena is a major predator. This is one of the most significant challenges that the informants believed to be at the centre of their conflicts with wildlife. Predation takes place when people take their livestock into wildlife areas for grazing, or in the villages when predators encroach. In this area, veterinary fences are not yet constructed. Since part of the ward lies within Sengwe-Tschipise corridor, it would remain unfenced to allow the free movement of wildlife between GNP and Kruger National Park. I noticed that where the veterinary fences between the wildlife reserve and communal lands are not yet erected, locals would take their cattle into wildlife areas for grazing because that's where better forage is during the dry seasons of the year. In doing so, however, this puts both humans and livestock at high risk to predation. The major predators in this area are hyenas, lions, leopards, crocodiles, pythons and eagles.

[41] I will discuss poaching in detail in another section of this thesis.

According to my own field notes an average of two domestic animals are killed in the ward daily during the rainy season, and three during the dry season, so herders must continuously be on guard and able to protect their livestock. During the dry season some livestock roam freely, while herders are concentrating on other forms of livelihoods. During the dry season, cattle are the ones that fall prey to lions and hyenas because herders leave them to roam freely in the areas close to the village without protection – as is the tradition in these communal lands. The anger with which people responded to predation was higher when cattle were targeted than with the smaller and less valued animals. Goats were the most preyed upon, especially by crocodiles along Mwenezi River, because of the limited water sources and their small size. When some of the livestock is killed, only some drops of blood remained – nothing else to really tell which predator had killed it.

The river is the major lifeline to both livestock and wildlife during the dry seasons of the year. Twenty five percent of the survey respondents wanted ZimParks to translocate crocodiles from this river because the general opinion is that their population is unsustainably high. In 2016, the park authorities captured and relocated more than 15 crocodiles from this part of the river. It was helpful that year until the next rainy season when a new population refilled the pool again.

The new policy ushered in by stakeholders in the GLTFP does not allow grazing or consumptive access to the national parks – neither by livestock nor by humans. New conflict lines have been drawn between the community and ZimParks, resulting even more animosity towards wildlife. The discussion with one villager, Mlusi, he gave good insight into how people want wildlife problems to be solved I will discuss these in the coming section of this paper. However, HWC are real in this community, and my own observation is that when these cases are reported to the authorities, it doesn't seem urgent until there is either a hunting tourist interested in the species or until there is a huge trophy too good for the professional hunter to ignore. One of the biggest challenges I identified was that authorities were failing to instil positive perceptions in the local communities towards wildlife, and a big reason for this is their lack of timely response to calls for help. During my interviews, the respondents indicated that they were losing their livestock mainly due to the state's inaction and wildlife was becoming more significant influential than livestock production. If

nothing was done to protect their livestock, it would not be a viable source of livelihood s any longer.

6.3 Attacks on humans by wildlife

Dangerous encounters with wildlife that are fatal to humans are not rare, but in fact happen on a very frequent basis. According to ZimParks, wildlife killed a total of 20 people throughout Zimbabwe in year 2018 and thirty-six (36) in year 2019. These people were among 195 people attacked in 2018 and 311 in 2019 (Mafundikwa 2020). Humans are often attacked by Buffalos, Elephants, Lions, Hippopotamus, Snakes, hyenas and Crocodiles. There are real dangers posed to human lives by wild animals in all areas on the edges of national parks or game reserves. This is the case in Sengwe where in the period of my field work, 37 people (Table 11) were bitten by snakes and one (1) was swallowed by a python. Twenty-five people were also attacked by buffaloes and 3 of them were killed on the spot. Five people were killed by crocodiles over a period of two years of my research (refer to Table 11 below), There is a history of lion[42] or hippopotamus attacks in Sengwe, but none happened during the period of my fieldwork.

Wildlife attacks take different forms; being charged by an elephant prompted people to run for their safety. Of all elephant attacks that we recorded, ten of them were either in the crop fields or close to the homesteads. Those cases are never taken lightly because the community believes that elephants come to their homesteads or crop fields due to their huge numbers, which justifies their opinion that the animals must be culled or killed for money.

*Table 11. Animal attacks on humans between June year 2017 and September 2019 (*Source: Fieldwork data, 2019)

Animal type	**Number of attacks**	**Number of deaths**	**Serious injuries**
Snakes	37	1	4

[42] It was in July 2019 that a 10-year-old girl was attacked and killed by a lion outside my study area

Buffalos	25	3	0
Crocodiles	10	5	2
Elephants	13	0	0

Attacks by wildlife occur throughout the year but I recorded that nine of ten crocodile attacks happened in the dry season when people rely on Mwenezi river water for household uses like laundry and small permaculture gardens. People were attacked and killed during the daytime, and while all age groups get attacked, it is often the children between 6 and 14 years who fall victim. There are also always complaints about crocodiles along Mwenezi River, especially in the crocodile pool, which is highly populated and unsustainable. This was echoed by one villager, Mlusi, who also confirmed park official's revelations:

"There are so many crocodiles in the Mwenezi River. The problem is that the river has silted and most parts of it are dry during the dry season and crocodiles will converge to this pool, which becomes their major hunting ground. Unfortunately, it's only the domestic animals that will be drinking here, making them prey to the crocodiles. We have on several occasions alerted ZimParks about this problem and they sometimes capture and release them upstream (within the Park), but when it rains again they just fill up the pool. They don't take our plights seriously and we know it's just a game. We have asked them why they don't put them on the hunting quota, so that it would benefit the community to have crocodiles. We are in trouble because of wildlife, and I personally feel that we are not more important than these animals.

My family and friends have lived to accept that wildlife is part of our problems throughout our lives even if I believe that one day, we will have leaders who will remember us and do something about..." (Source: Fieldwork data, 2018).

6.4 Wildlife-livestock diseases[43] (Anthrax, FMD, red water and BMCF virus).

Much is discussed in terms of wildlife-livestock diseases in general but in this context, they are a major source of discontent among community members. The way people view wildlife "diseases in livestock" is blame-ridden, as if someone is purposefully injecting the diseases into their livestock. Increased prevalence of wildlife-related diseases in livestock is a major cause of the community's overall negative perception towards wildlife. My survey data reveal that 40% of the respondents were worried that wildlife would bring incurable diseases to their livestock and thereby threaten the lives of their herds. They were also worried that livestock diseases would also threaten human health by transmitting diseases to them. The same survey also showed, however, that 35% of the respondents were worried that veterinary fences being erected along the Gonarezhou National Park would threaten their livestock grazing areas and that ZimParks was shifting the park boundaries into the communal areas. 65% of the population sample indicated that they had lost a varying number of livestock to diseases, which were transmitted by wildlife (especially buffalo). Buffalo are a carrier of foot and mouth disease, while Bovine Malignant Catarrhal Fever (BMCF) virus comes from wildebeest calves (Gandiwa *et al.* 2011).

During interviews, respondents mentioned Rabies as one of the diseases that affects them and their dogs if they are bitten by Black-Backed Jackal, which carries the virus. However, there was no quantitative data or significant information about these in the records. Rabies is an infection caused by the rabies virus, which is spread through the saliva of infected animals, mainly the *Canids* species. It affects the central nervous system and local dog populations are always at risk of contracting it. Dogs are frequently vaccinated against rabies in Sengwe, thus lessening the frequency of the infection.

Table 12 (below) shows the number of times (n) each of the families (*N*=40) had one of their cattle killed by any of the diseases above. The data are based on what the veterinary department had diagnosed as the disease, not what the family thinks was the cause (except in times of outbreaks) and dates to the year 2000 when the GLTFP was initiated.

[43] Information on livestock diseases is a sensitive subject in Zimbabwe. The data I used in this section are mainly based on village data, interviews, and to a lesser extent newspaper article in the archives.

Table 10. Livestock Deaths from year 2000 to 2017.

Disease	Number infected	**Number of deaths**	**Number of healed**
Anthrax	35	13	0
FMD related	43	10	0
Red water[44]	Unknown	34	4
BMCF	Unknown	2	1
Others	Unknown	23	15

It was quite interesting to note that community members were well informed about livestock diseases and how to control them. They also had information on causes, including data on how interacting with wildlife can cause disease transmission. I now want to give a brief description on the links between wildlife and livestock diseases in the context of GLTFCA. *Anthrax* is a bacterium that affects warm-blooded animals including livestock, wildlife and humans, and has always been of major concern in livestock production. However, Chiredzi district in general is outside the Anthrax hotspots in Zimbabwe, so no recent outbreaks have been recorded besides a few individual cases. *FMD* is common in Zimbabwe in general and cases are frequent in areas where wildlife and livestock share spaces. In Chiredzi, the last recorded outbreak was in July 2017 when a total of 10 cattle were killed by FMD-related illnesses. FMD is also common in hippos, antelopes and even predators, but it does not directly kill livestock. When an animal is infected with FMD, its immune system weakens, and death is likely to be caused by other opportunist infections or malnutrition.

[44] It is a tick-borne disease transmitted by a parasite called *Babesia divergens*. Under normal circumstances, it is curable and easy to control but in Zimbabwe basic animal health programmes have been hampered by lack of funding, causing a huge number of livestock deaths.

There is a widespread assumption that wildlife is to blame for most of the diseases affecting the cattle and thus something must be done to prevent wildlife from interacting with livestock. In an interview with the local veterinary officer, he explained that

> *"Our advice has always been to avoid contact between livestock and wildlife by taking livestock somewhere else besides the national park area for grazing. This is where diseases come from and wildlife host deadly livestock diseases. If livestock do not interact physically with wildlife ecosystems, it is very easy to control all these diseases. Of course, there are very limited grazing areas around the village, and it is difficult to rely on them. I think this problem would persist until a veterinary fence is erected along the park boundaries to put a physical barrier between wildlife and livestock. No matter how we try, we are dealing with animals, they will always find their way to each other."*

This is a shared opinion among the government extension officers representing different departments in the area, even if the community did not approve them. In terms of diseases, buffaloes and wildebeests are the most blamed and targeted by communities. Strategies to deal with diseases include information sharing on the wildlife movements and intrusion into grazing areas for livestock to help herders avoid those areas. In rare cases people retaliate against buffalo intrusion, but they try to avoid confrontations. There are wildlife protection community groups which act as a response team to deal with immediate cases of wildlife attacks. They are also used as antipoaching game rangers who do not receive a meaningful payment or recognition by authorities. The involvement of this community-based groups has been helpful reducing confrontations even if they work on very limited resources.

My fieldwork data reveal that the setting of animal snares and traps to kill buffaloes is related to the need for meat more than any other cause as was revealed by the interview I had with Melusi, one of the formerly convicted poacher who resided in ward 15, Chiredzi,

"..telling you all these things doesn't mean I am proud of them, but I feel I have the responsibility to help our community to understand the problem of poaching. Unfortunately

a lot of people are involved in this business because we sold some of our hunts to local buyers. We used to use different methods to hunt, but for buffaloes we used traps and snares because we did not have sophisticated tools like guns. The only reason we hunted buffalos was the need for meat which was in high demand..."

6.5 Discussion and conclusion

Humans conflict with wildlife due to the sharing of spaces and resources. However, high frequencies of HWC were caused by a history of neglect and underdevelopment of the area in such a way that humans are forced to compete with wildlife. This would not have happened in a community were resources are abundant. HWC are imbedded in the social-economic and political structures of the society, that were at the centre of all problems. Narratives from these findings reflect a pure case of how living too close to the conservation area cause problems to human economy, at the same time increasing some pressure on nature.

HWC manifest in two ways: wildlife attacking humans and humans attacking wildlife as we have described in the Chapter 6 and 7. These scenarios are old in the sense that it has always been happening before the formation of GLTFCA. However, it was usually a discourse of the nature conservation that were at the centre of these discussions. This study's perspective is new, as the dominant discourse has left out the perspective of the communities.

The other question that I wanted to answer was who persecutes wildlife, locals or other organised criminal groups? I maintain that the rumour that local communities are poachers and cause fires within the park is simply not true, a view that is also shared by other scholars (Gandiwa *et al*. 2013). Even if the same scenario revealed by Schnegg and Kiaka (2018) in their study of community water resources in Namibia, where they found out that elephants benefited the communities but their costs on water resources were just to profound as compared to the amount of that was distributed among them. Wildlife-related livestock diseases are a major source of discontent and animosity in the communities towards wildlife. Livestock owners try to avoid wildlife areas, yet the community is not happy with the authority's solution along those lines, namely that veterinary fences being constructed along the park, because it deprives them of grazing areas.

Wildlife attacks are sometimes exaggerated to express negative human perceptions towards certain species and expose deep-rooted conflicts between communities and conservation authorities. The sentiments above were common and always pointed to the CAMPFIRE challenges and abuses and how the GLTP establishment has disenfranchised them of their financial benefits. This shifted the blame to ZimParks authorities for refusing to increase the hunting quotas or at least cull growing wildlife populations. Against this background, I observed that there were some problems in CAMPFIRE, namely Problem Animal Control and trophy hunting[45]. Careful analysis of non-verbal expressions and inconsistences in some of the responses gave me the impression that when answers were perceived to possibly have some effect on the amount of CAMPFIRE revenues received, some informants tended to give carefully crafted answers that then changed over time. The greatest problem with wildlife is not the danger they pose to human lives but rather the authorities' failure to do something to protect the humans and their interests.

Diverging from findings by Muruthi (2005) that Problem Animal Control is a solution to wildlife-related conflicts, I argue that it is one of the causes of HWC because of its lack of transparency and the corruption among the authorities. Community groups are taken for granted and are seen as opportunists who just want wildlife meat and other immediate benefits. There is an agreement that PAC is abused by those entrusted by ZIMPARKS and there are some challenges regarding the definition of problem animals and the interpretation of policies. Migration in this region has caused the number of cases of HWC to skyrocket, and there is general discontent in the area due to the authorities' neglect of the human communities in favour of the wildlife.

[45] These issues were discussed in previous chapters of this thesis

Chapter 7

Human adaptations to HWC

7.0 Introduction

Humans have developed ways to prevent, control and manage conflicts with wildlife. These measures range from deterring wildlife to killing wildlife or migrating away from wildlife zones. At the same time local communities, state departments and international organisations seek to adapt to the challenges. Adaptations are sometimes perfect and have helped in dealing with wildlife-related conflicts even if some are maladaptation that perpetuate poverty and cause wildlife populations to decline. In some cases, local communities find their own coping strategies to deal with overwhelming wildlife problems. In this chapter I will discuss how humans and to a lesser extent how wildlife is adapting to HWC. This is based on interviews, observations, survey and secondary data which were aimed to answer what humans are doing to protect themselves from wildlife. Some of the questions that led to this section were how do people who have been exposed to various social, political and environmental challenges adapt to the extreme exposure to wildlife? How has the history of this group, including migration and economic discrimination that I have discussed in the sections above, had an impact on the decision-making process of the community? There were adaptation measures that are only just at household or community. They were usually developed from historical experiences or indigenous knowledge systems. In this chapter, I subdivided these adaptation measures into local, national, regional and international.

7.1 Local Adaptation strategies

Protecting one's livelihood in Sengwe comes down to the actions of those affected, meaning that individuals must find ways to survive before they begin caring about the whole group/community. Protecting oneself from wildlife has always been easier and more effective in groups than when undertaken alone. In this section I will describe the process of making chili cakes, how they are used by the communities to deal will wildlife encroachment and the socio-environmental implications of the project.

7.1.1 Noise making and scare tactics

The local communities have in the past to some extent been able to tolerate or manage HWC and thus have been able to survive in harsh conditions. Mlilo, one of my respondents, said:

> *".. in this community we have noticed that we must find ways to deal with wildlife on our own. We must sleep in the crop fields, so that we are able to scare away wildlife from our crops. We use fire and beat drums, which sometimes help, especially [against] elephants. With quelea birds, sometimes beating drums, playing radios with high sounds. We coordinate with each other in nearby villages so that everyone is aware of the birds in the fields. For these predators, we used to use traps, especially when we noticed that the killing was recurrent. But now it is prohibited by law. Whilst killing predators including hyenas is prohibited by the law, thus it would be very difficult to deal with them. What we do now is to avoid conflicts with wildlife by making sure we do not allow our animals to graze in dangerous areas. Of course, there are other things we cannot do [anything about] to help ourselves, especially wildlife diseases: With those, we have no capacity at all."*

The most practiced deterrent strategy of beating the drums is sometimes dangerous to humans, especially when the animal in question charges at the drummer. Elephants usually get scared away by the noise, but at times they charge at humans and continue advancing into the crop fields. There are a lot of dangers caused by getting closer to wildlife at night, and attacks by unexpected animals have resulted in many fatalities. The number of snake bites recorded in the villages were mainly in the crop fields when people are protecting crops from elephants. This is also true with some of the buffalo attacks, in that they mainly happen at night when people are not expecting them. Playing loud music on radios has been tried by local farmers who wanted to scare away birds and baboons, but it only worked with the former, not the later. Only in the first instances were baboons scared away – they were

quick to adapt, realising that the radio was not real people speaking – and the problem continued.

During the cropping season, I noticed that in all crop fields there are statues designed like humans but clothed in bright colours – a sort of scarecrow, meant to deter animals like baboons, birds and other antelopes. Those observations are supported by Mr Mlilo's statement above. Besides our day-to-day activities, as noted in Chapter 1, I was also involved in the scaring away of wildlife from the crop fields.

7.1.2 Groups of community rangers against wildlife

The villagers have organized a strategy of forming groups of mainly young people who work voluntarily as night watchmen to protect the community members from wildlife attacks. They alert the village if there are wildlife intrusions in the village or in the crop fields. These groups would also design methods that would make it safe and easy to protect humans and their livelihoods from wildlife. During an interview with one of the group members, he said that it was a good idea to have such groups, even if there was need to find ways to fund them. This would make them more efficient and effective in dealing with wildlife poaching and problem animals.

7.1.3 Lion-proof fences

Fences are common in the conservation of wildlife, but this physical barrier, a lion-proof fence, was invented to keep wildlife out from where livestock are kept. These fences have been erected around homesteads and livestock pens throughout history to protect against lions, but they are also effective against elephants, buffaloes and antelopes. In the picture below (Figure 23) are some examples of lion-proof fences that are mainly made from tree trunks and branches. These pictures were taken in Sengwe community in June 2018.

Figure 22 Lion-proof fence (Source: Fieldwork data 2018)

The biggest problem with this strategy is deforestation; communities have been discouraged from excessive logging. Only in critical need or for very important uses are people allowed to seek permission from the local Environment Committee member in their village – usually the village head. Other modern fencing strategies like the use of electric fences remains an unattainable goal due to the unavailability of the basic requirements and high capital costs.

7.1.4 Chili farming strategy

Chilies are a strong deterrent for elephants, the smell of capsicum is a very unpleasant smell for them. Farmers have learnt that planting chilies around crop fields has positive effects, sharply reducing the number of times elephants destroy their crops. We observed that crop fields that were surrounded by chili plants were fifty per cent (50%) (n=20) less likely to be raided by elephants than those without. The statistic might not be a true reflection of what is happening on the ground because farmers use a combination of methods. The biggest challenge with the chilies is that when the plants are small, they are not as effective as the ones with fruits. Moreover, chili plants have a deterrent effect on elephants but there are other animals that are not affected at all by the plant, and they continue to invade crop fields. These include moles, shrews, francolins, baboons and antelopes, which will all avoid eating chili plants but will go past them to the next plant species.

7.1.5 Elephant chili cakes

Community research has managed to establish that if they burn chilies, elephants can detect the burnt chili smell from more than 1000 metres away and will then divert their routes. There is ongoing research by the community following recommendations by a researcher, Everson Dahwa (forthcoming publication) maintained that there were better ways to deal with elephants and recommended making chili cakes. This method allows people to sleep at their homes during the cropping season while the chili cakes scare away elephants. Fig 24 is a picture of chili cakes that are being dried after moulding. The villagers believe that the chili is toxic for the elephants.

Figure 23. Chili cakes produced by villagers (Source. Own picture, 2019*).*

To successfully deal with the elephants, one of the above 'cakes' is required per night for an area of about 5000m2. Because of its ingredients, elephant dung and pepper, it takes about six-seven hours to slowly combust. The smoke carries with it *capsicum* into the air and supposedly deters all the elephants if they smell it. The smoke can travel a long distance but only at 1000m does it become strong enough to deter them.

Figure 24. Elephant dung being prepared (Source; fieldwork data 2019)

Environmental challenges of the chili cakes project

Questions about the environmental sustainability of this process considering climate change and global warming come to the fore. These are the first questions that I asked myself considering the burning of petroleum products, which are one of the major factors in the global warming discussion. The fact is that whichever way one disposes of used oil in this area, it ends up contaminating water sources or increasing the amount of greenhouse gases in the atmosphere. Likewise, when burnt, the chili cake produces a choking black smoke that not only deters elephants but sticks to any organic substance for a long time and emits large quantities of carbon into the atmosphere. Although I was unable to test this, the

possibility is that carbon monoxide, which is notorious for depleting atmospheric oxygen and producing the main greenhouse gas, is emitted by the burning of chilli cakes.

7.2 Adaptation to livestock depredation

As a way of dealing with crocodile predation on small livestock, farmers have avoided the "crocodile pool", along Mwenezi River, and have looked for alternative water sources for their livestock. It is difficult though, because water is naturally scarce and looking for alternative sources is yet another burden on farmers. Even when the farmers did take the time and effort to design these preventative measures, the problem persisted; at the community level, groups formed to help deal with these problems. During my stay in Sengwe, I attended meetings and workshops initiated by the community with the help of government extension officers to start cattle pan fattening. This is intensive cattle rearing that is intended to replace free-range production, which is extensive. There were two major drivers for this – the need to increase profitability from the business and to protect livestock from the predators. In this pan-fattening programme, villagers planned to have communal cattle pans and core-protect their livestock from predators.

7.3 CAMPFIRE as an adaptation to HWC

CAMPFIRE policy, processes and technical information

From the 1970s into the 1980s amendments to legislations in then Rhodesia and now Zimbabwe encouraged flexibility and other, better initiatives in managing the wildlife. According to Peterson (1991c) and Metcalfe (1994), CAMPFIRE was the re-empowerment of local communities living in the marginal areas. It was meant to encourage them to conserve natural resources (Murombo, an ecologist in the GNP). The CAMPFIRE policy was primarily supposed to distribute benefits from income, employment and production generated by tourism, elephant culling and meat-marketing (Peterson 1991c).

The Department of National Parks and Wildlife Management (DNPWM) developed CAMPFIRE in the 1980s and gave Appropriate Authority (AA) to Rural District Councils (RDCs) (Tafangenyasha *et al*, 2017). RDCs, according to Zimbabwe's Local Government policies are the holders of communal lands. It meant that power was devolved to yet another arm of the state, the local government. As I will discuss later in this section, this is the basis for some of the major challenges that CAMPFIRE is facing in my case study area.

According to Murphree (1997), RDCs agreed to pay 50% of the revenues to communities (as wards); up to 35% would be allocated to wildlife management, while they could retain 20% as an administrative levy.

It is worth noting that USAID funded two phases in the formation and implementation of CAMPFIRE, allocating USD44.1 million to wildlife management efforts. It is against this backdrop that some scholars believe CAMPFIRE revenues were not managed properly right from the beginning and the funding withdrawal by USAID exposed that nothing had been done. My research involving CAMPFIRE tried to expose the under-researched viewpoints, for example by measuring the perceptions within communities engaged in CAMPFIRE. I tried to shed light on how the withdrawal of donor funds exposed CAMPFIRE's inefficiency even though supporters of the programme insist that its funding was insignificant. During my interviews, CAMPFIRE community members downplayed the importance of USAID funding and believed that their projects were funded by hunting. They argued that donor funding was only meant for the elite and not for the common people.

In the early 1980s, park authorities, researchers and other stakeholders realised that fortress conservation was not working. They noticed the need for participation from local communities in any conservation initiative. This led to the formation of the CAMPFIRE policy in 1989. One of today's key views of CAMPFIRE is that 'the meat is no longer coming' (Dzingirai 2004), hence there is '*no more CAMPFIRE*'. This is a common view, but it's not the only view. I will give a detailed description of the CAMPFIRE process, emergence and formation of community-based organizations.

CAMPFIRE was developed as an organization to take advantage of local knowledge, to get local people to participate, and to reward them for their involvement. With their participation in NRM based on the belief that the resources were their common property, it should have been easy to curb poaching and increase tolerance to wildlife, thereby reducing the predation of the pests or predators. People living on the edges of the said reserves would do anything in their ability to limit the losses incurred from sharing the space with wildlife. In this section, I will elaborate on my own experience and observations of how people have adapted to HWC.

7.3.1 Evolution of CAMPFIRE: community perspectives

Communal Areas Management Programme for Indigenous Resources was initiated in 1989 by the Zimbabwean Government through the Department of Natural Resources to support community-based development and the sustainable utilization of natural resources. According to departments, people living on the edges of protected areas were always among the most frequently arrested or blamed for poaching natural resources including wildlife. The opinion was frequently voiced that wildlife was being persecuted by communities who saw no benefits from them.

Research by Gandiwa *et al.* (2013) showed that involving affected communities by giving them direct benefits from protected natural resources would get them to agree to and participate in conservation policies. One of the first programmes was Mahenye in Chipinge on the northern side of Gonarezhou National Park in 1989. Another trial was stated in Masoka in the lower Zambezi Valley in the northern part of Zimbabwe, where the major aim was to foster shared interest among all stakeholders. CAMPFIRE was meant to attract donors who were keen to establish natural resource-based development. Various communities in all parts of Zimbabwe started their own CAMPFIRE systems following the success of Mahenye Community. In Sengwe alone, eight CAMPFIRE groups were formed in 2002. I will portray Hlarweni CAMPFIRE in ward 15 of Chiredzi, owing to its history, institutional structure, activities, successes and challenges. After observing most of the CAMPFIRE groups in this area, I noticed that they have common characteristics and attributes, which justifies showcasing only one case.

CAMPFIRE in the Sengwe corridor is perceived by the community as a sustainable means of conserving natural resources, in this case, wildlife. But what do they understand under this concept? How feasible conservation is now, with the TFCAs? Mlilo reported:

> *Community-based conservation means that our cattle should be allowed to graze in the national park, and we should be allowed to harvest NTFD and some lumber when we want to construct our houses. Parks should not always arrest community members for these things. It only means being allowed to hunt small animals for food. We are hungry but the park is full of warthogs, so why can't we be allowed to eat some of them? GCT does not allow the hunting of even small quelea birds.*

(Source: field notes, 2018)

Headman Samu explained how important it was for him to be involved. He said that "*We represent the community, and we can make the people abide by the traditional norms and values in the management of natural resources. Our involvement is important, otherwise nothing can materialize.*" The only difference is the dimension that people are more focused on themselves, meaning if someone else is involved and leaving them out, the process won't be perfect. In this respect people perceive community as 'I' and maybe others can get involved also.

Case of the Hlarweni CAMPFIRE Group

The group was formed in 1992 by the Chiredzi rural District Council (CRDC), and with the help of NGOs following the Parks and Wildlife Act of 1975 amendment of 1989, the Rural District Councils (RDCs) were given power as representatives of communities to coordinate CAMPFIRE activities. It was in the interest of RDCs to establish CAMPFIRE groups in the district because these local authorities would retain 20% of all CAMPFIRE revenues to cover administration costs. Thus, with the help of NGOs, the community was grouped into smaller subsections which were named the CAMPFIRE villages. Acting as the headquarters, the RDC had personnel who could coordinate CAMPFIRE activities, some of whom are still employed there. Since the establishment of CAMPFIRE groups in Chiredzi in general, the RDC has been controlling the distribution of money and coordinating programmes.

Institutional Aspects of Hlarweni Campfire

Hlarweni is made up of nine villages in the south-eastern part of ward 15. Membership is automatic for those with their names listed in their respective village registers. The group is coordinated by 11 committee members, who were elected during an Annual General Meetings (AGM). AGMs' primary purpose is not particularly to elect leadership, but rather to hear feedback from each sub-committee. Each of those nine villages is supposed to delegate one committed member to coordinate village meetings or anything related to CAMPFIRE. Hlarweni's constitution stipulates that at least three community meetings should be held per year. When I attended some of those meetings, I observed that most of the villagers did not attend. Attending these meetings might have positively affected the

quality of the discussions, however, because most deliberations were postponed to the next AGM and urgent issues were not properly resolved. The annual meeting gave feedback on cash flows, consisting mainly of what dividends they had received from the RDC and how the money was spent.

Moyo, one of the CAMPFIRE committee members reported:

> *These days we just know that CAMPFIRE exists, but the money doesn't come [to us] anymore. The hunter is killing a lot of elephants, but we don't know where that money is going. Since 2009, each household received USD$13 per year for the whole year, and I am surprised. I know we are supposed to be happy with CAMPFIRE, but now, it's not an advantage anymore. What do you think people will end up doing?*

The narrative that someone is using their money is common. The Hlarweni CAMPFIRE committee was blamed during the meeting I attended for being either dishonest with the way finances are handled and for not advocating for more benefits from RDC. To counter these accusations, the committee tried to justify why they are the best by detailing how the money was issued and how they were working hard to make their community better. This became the narrative of historical successes in their project.

The success stories of Hlarweni CAMPFIRE

There are some concrete achievements that the nine villages can point to and refer to as good examples of how CAMPFIRE revenues have been used over the past. I list here the ones I observed myself and the ones I was told about.

Table 11 Success stories of Hlarweni CAMPFIRE group since its formation:

Observed	Told about
Preschool	Road rehabilitation
Two Grinding mills	CAMPFIRE Administration by local government

Ten Blair toilets/latrines Salaries of two grinding mill employees

There was a round building used as a community hall, which represents one of the CAMPFIRE successes stories. However, it is the mere fact that before its construction there was nothing comparable to it at all that makes it one of the key CAMPFIRE achievements. This building was specifically built to host community events at the same time serving as a pre-school building. It is a big project in terms of its value but how much money is said to have been used is not important to the community. It services nearly four villages with a population of about 200 people. The project was developed between 2016 and 2017, at the value of US$300.

Each employee at the grinding mill is paid directly by the mill. In other circumstances, however, it can be substituted by other Hlarweni CAMPFIRE (HC) funds. At the time of my fieldwork, the mill was charging about ZW$1.00 per 20kg sack of grain, which was half the normal price, and it serviced mainly the members of the HC, although outsiders could also use the services.

I found the harsh economic climate prevailing in the country now to be the major factor affecting the success and even feasibility of some of the CAMPFIRE projects. The important realization exists among some community members that the wildlife is to be valued and the community is being serviced as a reward for that valuing – for instance when people realize that there is something physical that they can point to like the grinding mills and preschool, among other physical infrastructure important to the household /individual decision-making. On that note, a CAMPFIRE committee member, Mr. Muyambo, had this to say:

"*Some of us value wildlife, especially elephants, because we are benefitting directly from their hunting. We can easily point out things that have gotten better."* (2018)

However, this is not the common feeling among the respondents. As I have discussed in the previous chapters, many respondents expressed dissatisfaction with over the unequal distribution of benefits.

> *"The elephants are destroying our plants, which is our form of livelihood, and what do we get from CAMPFIRE, blare pit latrines and grinding mills? We are dying of hunger. If we could get enough money from CAMPFIRE, we wouldn't mind spending time 'herding' those elephants*." Mlomwa.

The term 'herding' in this context meant conserving and carefully living in harmony with the elephants. As alluded to by CAMPFIRE benefits no longer offset community development goals.

Difficulties of running a CAMPFIRE project in a Hyperinflation Environment

According to Mahonye and Mandishona (2014), at some point during 2008, inflation in Zimbabwe hit one trillion percent. The country's currency collapsed completely, taking all savings with it. However, in 2009 a multi-currency regime was introduced with the United States dollars becoming the main currency. Hlarweni CAMPFIRE project's savings in ZW$ were all wiped out in one night and the following day their bank account balance was at US$0.00. This was the case not only for CAMPFIRE groups but for everyone in the country.

Hlarweni CAMPFIRE started receiving its funds in year 2009 when the Zimbabwean economy was showing good signs of stability. In February 2018 a Statutory Instrument policy was passed that forced US$ to be replaced by a virtual ZW$ currency at a value of US$1 to ZW$35. However, within a few weeks, the government introduced a new policy that delegitimized the use of multi-currency systems in all local transactions. It became illegal to trade in US$ and all bank savings were automatically converted to ZW$ at a very low rate. Against this economic shift Hlarweni CAMPFIRE was technically unable to adapt in order to avoid losses. A bank account with US$3,000, for example, was effectively reduced to the equivalent of US$150. Goods and services, however, remained at their former prices in US dollars, and as of 30 August 2019 the inflation was at 200%.

7.3.2 Banning of hunting in Malipati Safari Area

In 2017 the ZIMPARKS suspended hunting in Malipati Safari Area, the buffer zone between Gonarezhou National Park and Sengwe. However, the community blames the implementation of GLTFCA as the major cause of the ban because they are aware that the German partner, Frankfurt Zoological Society, is pushing for a shift from consumptive tourism to non-consumptive tourism. What does CAMPFIRE mean in this respect and why

are people not happy? Research by Dzingirai (2004) indicated that people want meat first even before they talk about financial benefits. So, the ban meant less meat from wildlife hunts and dividends were thus reduced. As I discussed in the previous chapters, there is a very negative perception of TFCAs by proponents of CAMPFIRE because of the generally different modes of operations. The benefits that Hlarweni CAMPFIRE include wildlife meat, which was ranked as very important by 65% of my survey respondents. It provides immediate dietary requirement for households. This is important in the ongoing hunting vs poaching debate.

7.3.3 No mechanisms to benefit from ecotourism

CAMPFIRE was born out of the idea that people are likely to live harmoniously with nature if they receive direct benefits from it. Hunting – the major CAMPFIRE source of income – is blamed by many donors, tourists and a good portion of scientists for causing ecosystem disturbances and forcing genetically unique wildlife into extinction. This makes it a maladaptation strategy to some stakeholders to reduce HWC. Thus, there is a general agreement internationally that ecotourism is the way to go. Along the same lines, NGOs are lobbying for a complete ban on hunting, from which CAMPFIRE derives its entire existence.

During my fieldwork I wanted to observe mechanisms that CAMPFIRE has put in place for the community to benefit from the tourist visits and how ZimParks shares benefits with the community. Hlarweni, like most rural wards of Chiredzi districts, does not have any tourist attractions. Popular sites that a few tourists do come to view are in the Gonarezhou National Park, which means revenues flow directly into the ZimParks account and no one receives CAMPFIRE benefits. Of course, there are discussions among NGOs, state departments and community representatives that aim to find ways to change this. Hlwareni, like other CAMPFIRE groups are not actively involved in the management of wildlife.

7.4 Adaptation by ZimParks

ZimParks has put in place measures to adapt to human-wildlife relationships with the hope of ultimately reducing the frequency and magnitude of conflicts. The idea is to instil a positive image of wild animals in the local community members who see these animals as a major challenge in their daily activities. The question is whether the strategies are appropriate or simply a maladaptation. The ZimParks website (www.zimparks.co.zw) offers a place for the public to give feedback and register HWC encounters. This was designed to

work as an alert to the authorities, who would presumably then take appropriate and swift action. There are, however, several other ways in which ZimParks and other governmental departments are trying to reduce HWC, especially in the GLTFCA. As I have discussed in detail above, CAMPFIRE is one major method that is systematic and has already been adopted at the local community level. Related to CAMPFIRE are other measures like culling and problem animal control. These measures involve killing wildlife and are thus highly criticised by proponents of non-consumptive tourism.

7.4.1 Erection of veterinary fences

During the formation of major national parks in Zimbabwe, fences were erected to prevent any mixing of wildlife and livestock, however, most of those fences have fallen apart due to the lack of maintenance. The resulting increase in diseases shared between wildlife and livestock has spurred the Veterinary Department and ZimParks to begin erecting yet another fence around Gonarezhou National Park. It is again a source of new disagreements between the government and the local community, who feel they are being deprived of viable grazing area in the national park. Rumours and negative perceptions have gripped the community and convinced them that the fences are meant to extend park boundaries into the communal lands.

7.4.2 Antipoaching patrols and arrests

ZimParks have engaged Zimbabwe Republic Police (ZRP) and at times Zimbabwe National Army (ZNA) to help its rangers in antipoaching patrols and investigations. The sense of urgency for improving the antipoaching mechanisms skyrocketed after more than 200 elephants were poisoned by poachers between 2013 and 2015. Poaching has become more sophisticated and now involves international syndicates of various nationalities. In Zimbabwe in general, between 2010 and 2018, 35 poachers who were caught were foreign nationals residing outside Zimbabwe. Antipoaching has received significant attention and become a well-publicised issue which then helped game rangers. This is a major challenge to law enforcement which sometimes fails to make arrests when the poachers cross national borders.

Gonarezhou Conservation Trust (GCT) has improved antipoaching strategies in and around GNP through community engagements and the strengthening of local institutions that deal with poaching. GCT employees are widely carrying out extension work to reduce HWC,

which are usually avoidable. Local communities have their own representatives in the antipoaching teams of the GNP. That ranger has the responsibility to make sure that Safari operators do not over-hunt, i.e. exceed their quota and liaise with the community on the antipoaching investigations. He or she makes sure that the community is not disenfranchised by the Safari Operator and parks authorities.

7.4.3 Promotion of community-based tourism

There is a national policy to promote ecotourism structures in the communities around conservation areas. As I have indicated in the previous sections, Malipati Development Trust (MDT) has been invited by ZimParks to design ways in which cultural sites around communities can be marketed together with national park sites. There have been efforts by communities to organise and promote themselves, but there were just too few tourists coming for sustainable business – not enough demand for potential supply. This same issue is not unique to this community but is just the trend in the country's southern and eastern regions, which feel the greatest impact of Zimbabwe's international isolation.

7.4.4 Elephant culling

ZimParks ecologists in association with NGOs and other stakeholders periodically hold animal censuses both in protected areas and in communal lands. When the need arises, as has happened in the past years, culling is done to reduce the animal population density in their perceived home ranges. Animals killed under this programme in the communal areas should benefit the same residents as the CAMPFIRE project does. However, the government has blamed the CITES and developed countries for refusing to buy any of Zimbabwe's (and other countries') ivory stockpile, despite it coming from culling elephants rather than poaching. According to a report by ZimParks (2019), Zimbabwe was holding US$600 million worth of ivory; of course, this is not only from PAC, but also from natural deaths, poaching recoveries and culling.

I always wondered about the sustainability as well as the ethics of the so-called "*Killing for Conservation*" agenda: I wanted to understand how locals viewed it and to see how it affects and determines the future of wildlife around Gonarezhou National Park. One of my local interviewees argued that wildlife is not as important as human lives. He added,

> "*… you have seen for yourselves how elephants destroy our crops, our livelihoods. We would love to live in harmony with nature but day and night we don't sleep, and we are hungry. Elephants are multiplying and one day we will be displaced completely by these animals*."

However, conservation experts in the area whom I interviewed had a different view, namely that killing through culling is necessary and should not be criminalised, particularly because it is based on scientific research. One ecologist – George – argued that

> "*It's better for me to kill 1% of the whole elephant population than for all of them to die of overpopulation, and in the process, forcing all other species into local extinction. Elephants have a destructive feeding behaviour which is leaving their habitats destroyed*."

7.5 International support for adaptation measures to HWC

In this section, I took a document analysis approach to the larger-scale situation and relate it to what was transpiring in the Sengwe community. International adaptation measures range from funding, research, international treaties, advocacy and campaigns. Some of the measures target not only wildlife, but all environmental issues that will ultimately influence them. International treaties and conventions are some of the major reference points of policy design in Zimbabwe.

Funding and cooperation

Adaptation by various stakeholders have been in the form of funding and material assistance. There are three major examples of how international governments and non-governmental organisations (NGOs) have actively sponsored conservation activities intended to reduce HWC. United States Aid for International Development (USAID), as I have indicated in earlier chapters, made US$44.1 million available for the implementation of CAMPFIRE throughout Zimbabwe during its initial stages. USAID thus supported the establishment of institutions as well as of CAMPFIRE Association, which is still in existence. The funding from USAID has been credited for the earlier successes of CAMPFIRE because of its ability to strengthen community capacities and transparency. It was the driver for the successful cooperation between local communities and other stakeholders.

Between 2012 and 2013, the Government of the Federal Republic of Germany through GIZ funded Peace Park Foundation's conservation efforts in the upper Gonarezhou National Park area. GIZ donated 699,956.22 Euros to support these projects. The money was directed at community engagements and the translocations of wildlife from areas where they were under population pressure to safer, private game farms in the same area. This relieved pressure from many private game farms and areas that were deemed risky for wildlife. In general, the funding strengthened GNP capacity to deal with its day-to-day activities.

In late 2007, ZimParks invited Frankfurt Zoological Society (FZS) to support its Park Management Plan. Collaboration between the two organisations began in earnest when the Gonarezhou Conservation Trust (GCT) was formed. In this agreement, FZS agreed to fund the wildlife conservation activities by strengthening community engagement. In the protracted conflicts between humans and wildlife, GCT is working with the community to find non-lethal ways to tackle HWC, such as the Elephant Chili Cake project. GCT also pays some salaries for park employees as it supports employment of members of the local communities. The presence of GCT has had a positive effect on the local attitude toward wildlife in the area.

7.5.1 The role of social media and international campaigns in fighting for wildlife

Social media has recently taken off as one of the most popular measures used by the general public and even organised groups to advocate for the conservation of wildlife. In the Zimbabwean social media, there have been two major topics on wildlife: *#CecilTheLion,* involved an American hunter, Walter James Palmer, killing a collared research lion from Hwange National Park, Zimbabwe when it crossed to Botswana. This story became international news that got 32 million Google searches. Even though Cecil was killed in July 2015, it remains a reference point that is being used for advocacy as regards banning the killing of lions and other cats. It is working however, in the GNP area where hunters have another possible regulator that can cause possible international condemnation if they hunt illegally. The other topic that went viral was #*ElephantPoisoning* when more than 200 elephants were poisoned and killed in Hwange national park. It became a global concern, and it was highly condemned through social media.

7.5.2 International and Regional Treaties, Conventions and Agreements

Trans frontier conservation, GLTFCA, is one example of an international agreement signed by three countries, Zimbabwe, South African and Mozambique, that was supposed to broker a resolution for regional conservation conflicts, especially transboundary poaching activities. **TBPAs/ TF Park-** WWF and AFW initiated most of the transboundary park programmes in Africa for the conservation of nature and by 1999 TBPA covered about 10% of the total land area. The first TBPA in Africa was in Kgalagadi Trans Frontier Park on 12 May 2000, involving Kalahari Gemsbok National Park in South Africa and Gemsbok National Park in Botswana. AFW spearheaded its trans-boundary protected areas like the Kilimanjaro Heartland between Kenya and Tanzania and the Four Corners Africa Project, which involved Zimbabwe, Zambia, Botswana and Namibia. The projects failed to achieve much because the countries involved could not commit themselves to them (Swatuk 2005).

The concept of trans-frontier conservation was introduced in the 90s by the World Bank for the purpose of improving wildlife conservation efforts (World Bank 1996). There is no clear distinction between the TFP and TFCA in the literature – the words are always used interchangeably even though some scholars associate TFCA with catering to local livelihoods. The implementation of TFCA in Africa was blamed for side-lining the local communities in decision making (Bhatasara *et al* 2013), lacking a clear outline of how these local communities will benefit from such development (Dzingirai 2004, Hughes 2001) and that state driven processes are regressive in achieving social equity goals, e.g. community-based conservation and Sustainable Natural resource Management (Hutton, Adams and Murombedzi, 2005). Whande (2007) revealed that there are different understandings of what and how TBNRM is intended to achieve. I believe this is the reason why there are so many approaches to TBNRM, but no tangible results. Much of what has been done through the GLTFCA has been discussed throughout this thesis, so I will refrain from expanding on it in this section; however, Zimbabwe has also signed other international treaties and conventions that are meant to protect its wildlife. Among the long list of them I will mention the following:

1. Convention on Biological Diversity (CBD), 1992
2. Convention on Trade in Endangered Species (CITES), initiated in 1963

3. Southern African Development Cooperation (SADC) Protocol on Wildlife Conservation and Law Enforcement, 1999
4. African Convention on the Conservation of Nature and Natural Resources (Algiers) signed in 1968
5. Ramsar Convention on Wetlands of International Importance, especially as waterfowl habitat, 1971
6. Convention on the Conservation of Migratory Species (Bonn Convention, 1979)
7. Transboundary natural resource management (TBNRM)

These agreements were all top-down approaches and were not adequately supported by governments for them to yield meaningful results. Moreover, there were no national referendums to decide on ratifying these agreements in Africa, meaning that these decisions were being made regarding changes to the lives of citizens without involving the citizens themselves in the decision-making process

CBD is an international agreement that had three goals – the conservation of biodiversity, the sustainable use of genetic resources and the equitable distribution of benefits from biodiversity (Louafi, Sélim and Jean-Frédéric Morin 2004). This convention was humancentric and saw wildlife as a human asset, and as such, did not affect the real issue in HWC. People involved in on-the-ground conservation programmes do not talk about it, but conservation officials in Zimbabwe are very aware of it and its implications on conservation. However, nothing much was done in the communities to help the citizens appreciate the convention.

CITES: At an international level, CITES prevents international trade in endangered species through a systematic regulation of the market. The point is that it has been 43 years now of struggling to curb the illegal trade of ivory since 1973 when the Convention on International Trade in Endangered Species (CITES) was promulgated. Zimbabwe is among the countries that are planning to use CITES meeting to lobby for the down-listing of the elephant so that they can at least sell their ivory stockpiles to show that they don't have storage space. In the recent years poachers have developed sophisticated methods of illegal hunting in Africa. Is this not a good sign of failure? Zimbabwe signed the treaty in May 1981 but has not ratified it. The impact of CITES on Zimbabwe's wildlife sector is profound, despite the government continually threatening to pull out of it as a way of protesting the ban on selling of ivory

stockpiles. CITES functions by classifying wildlife according to their threat of extinction, with Appendix I being the critically endangered animals for which trade of any of its products is completely prohibited.

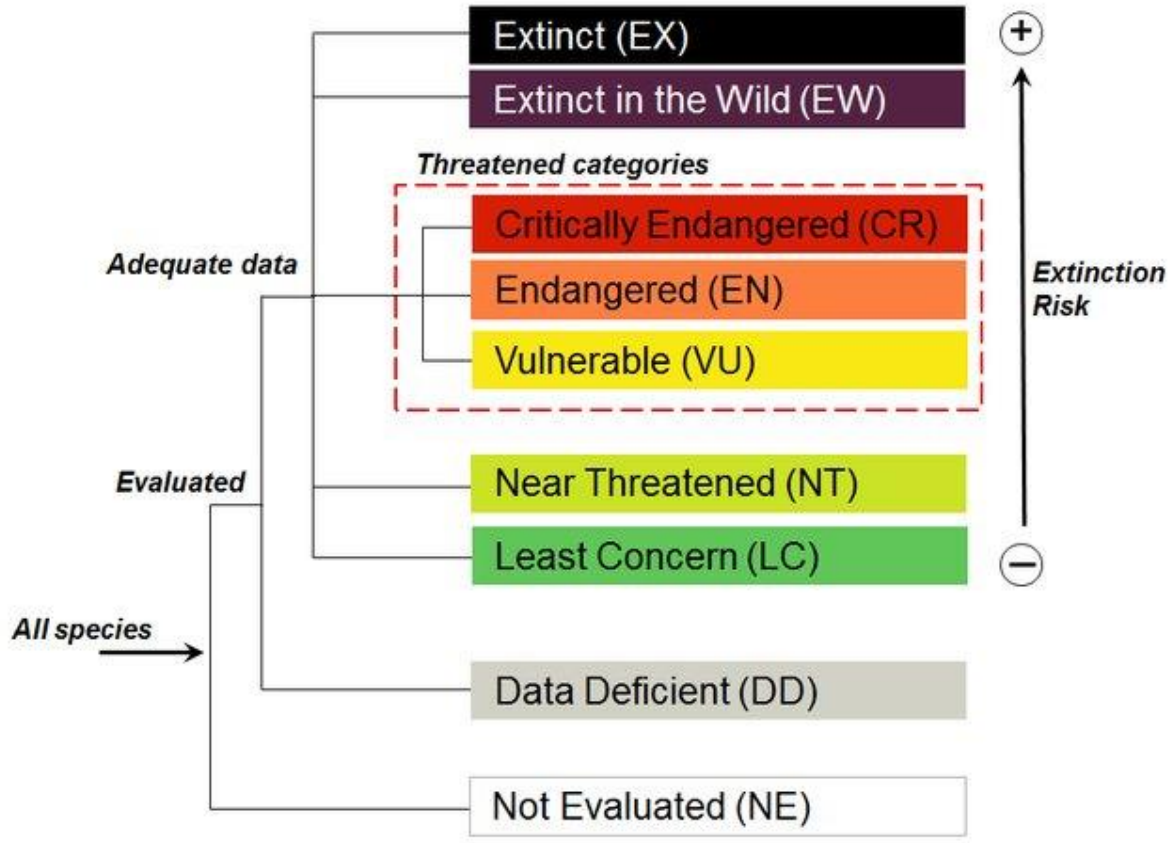


Figure 24 *Wildlife threat classification adopted from CITES*

Zimbabwean elephants, for instance, are endangered and trading in this species has been highly regulated. It has worked well in Zimbabwe in terms of reducing intentional killing of elephants, and their population has increased significantly. This increased number in the elephant population has not been well received by the state and local CAMPFIRE communities, who feel deprived of the potential income from trade in elephant products. The biggest challenge has been illegal trade, especially into China and other Asian countries, who have been implicated in most poaching activities in the country. The southern White Rhinoceros horn is in demand in the Chinese Traditional Medicine market, threatening the species in Southern Africa. CITES has not only prohibited official trade but is central to advocacy for the protection of wildlife species through organisations like IUCN.

SADC Protocol on Wildlife Conservation and Law Enforcement: A sophisticated document known only to a few people in the sector in Zimbabwe. It encourages member states to cooperate in antipoaching and information sharing with regards to wildlife in southern Africa.

Trans-boundary natural resource management (TBNRM)

This concept has been developed by conservation biologists and social scientists and demonstrates the ways in which the former desperately wanted to find ways to save nature that was on the verge of extinction and the latter was under pressure to find ways in which nature could be used for the betterment of humankind through the sharing of trans-boundary common resources. The international community-initiated method in response to the widespread ecological extinctions and environmental degradation in specific areas of the world, yet in April 2016, Kenya found herself burning large stockpiles of ivory confiscated from unsuccessful poaching deals as a way of showing the international world its zero-tolerance approach to poaching. Poaching activities escalated to alarming levels in Hwange National Park, part of KAZA TFCA, when poachers used cyanide to kill as many elephants as possible in October 2013; official figures of poisoned elephants stood at 135 (Muboko *et al*. 2014), though the *International Business Times* of October 2013 pegged the number at as high as 500. Where did the poached ivory go?

Swatuk (2005) also presented the view that African governments have other priorities like providing basic services such as education, health, water roads, among others, and that whatever budget can be transferred to international donors are welcome. It is the same reason that African countries are usually quick to embrace trans-boundary conservation. Whilst the international community imposes conservation policies on nation states through threats of diplomatic or trade isolation, African governments are usually the first ones to sign international agreements as if they are highly cooperative and concerned, yet they are merely positioning themselves to have part of the national budgets financed by the international community (ibid). As argued by Child (2004), nature conservation authorities in many countries are under pressure to justify their existence in terms of social justice after years of blame and conflict with local communities, which prompts them to “sing the latest

song", in this case TBNRM/TFCAs, hoping that the benefits will someday trickle down to the grassroots level (*with emphasis*).

Exploring HWC adaptation and coping measures is always a difficult task, however, this study has revealed several ways that humans have devised to help themselves and others to deal with wildlife issues. It is not clear from this study, though, how animals themselves have adapted to conflicts with humans or livestock. Adaptation strategies have been haphazard and sometimes lacked a clear understanding of local settings, thus making ill-advised decisions at the end. Other policies and strategies are well-documented but lack implementation strategies among parties. Trans-frontier conservation has been a very noble idea in the conservation of wildlife, but it lacks support from local communities, who feel disenfranchised by it. The problem with the international wildlife market is that it fails to control local trade and ultimately has a negative impact on the local community level. Many efforts have become fruitless – not managed well enough to produce the envisioned goals.

Chapter 8

Conclusion

8.0 Compiling all emerging themes

Studying the dynamics of trans-frontier conservation in Zimbabwe is complex and there are a vast number of factors to be considered. The same applies to the study of human-wildlife interaction in these areas, the research which demands the use of various tools, including a multi-faceted theoretical framework. The main objective of this research was to examine the diverse and often conflicting interests of the stakeholders with regards to human wildlife interactions in GLTFCA, focusing specifically on Sengwe communities in the Chiredzi district. Apart from the interests of the stakeholders, literature supported the fact that there were factors like migration (Mombeshora 2006, Spierenburg *et al.*2008), land reform and displacements (Murombedzi, 2003; Munthali 2007), poverty (Lewa *et al* 2017) and regional political instability (Wolmer 2003) that affected the formation and implementation of new conservation policies in the Sengwe area of the GLTFCA.

In the first three chapters of this thesis, I introduced the critical concepts of human wildlife conflict, trans-frontier conservation, human migration and land resettlements, wildlife conservation history and CAMPFIRE. I also introduced the research questions and the main objectives, which were then further expounded in the description of the methodological framework and research context. The research findings were subdivided into five chapters (3, 5, 6, and 7) based on the main themes that emerged out of the data analysis. Each of these chapters have different themes that are elaborated through the research questions and literature. This conclusion will be an amalgamation of the conclusions of each of those chapters.

Merging multispecies ethnography and political ecology in the study of the human and nature helped me to formulate and design multifaceted tools that considered all angles and regarded humans as part of and equal to nature. The use of these theories was based on my perception that life social-ecological dynamics are too complex to be analysed through a single lens and that even if humans try to dominate the world, they do not have the capacity and are themselves dominated by forces of nature. This pins human aspirations and goals to their environment or nature in general.

Although the people in the Sengwe area have diverse livelihoods, they do not have many sustainable choices, and the formation of GLTFCA left them worse off than they previously were. The success of CAMPFIRE proved to be unsustainable because of the withdrawal or end of donor funding led to significant implementation problems. On its own it was not self-sustaining as Duffy (2000) argued. The Sengwe community is not empowered sufficiently to benefit from tourism activities in the GLTFCA, as the infrastructure is not to attract tourists. Despite the apparent abundance of ecotourism attractions within the park area, the current political and economic situation caused a reduction in international tourism arrivals.

This study also concluded that there are other livelihood/ income generation opportunities for the villagers besides tourism. First, livestock production has the potential to be the main livelihood strategy if the community is supported by the government or other private entities. Considering the huge challenges that work against crop production such as low rainfall, high temperatures and crop depredation by wildlife, crop production can only be viable in this area if done under irrigation, i.e., not relying solely on natural rainfall. Even if crops do not do so well in the area, farming consumes more time than other economic activities during the cropping season. Second, there are some families who are taking advantage of their proximity to the South African border to pursue cross-border trading as an alternative economic activity. This is a profitable, sometimes illicit and dangerous business that people are pushed into by the harsh economic environment in Zimbabwe. It is also, however, associated with temporary migration from Zimbabwe into both Mozambique and South Africa by young people who seek better paying opportunities and who remit finances back home.

The social-economic structure of the area is based on the history of migration and displacements that made the area multicultural and heterogeneous. Mukamuri and Mavedenge (1997) had studied this history earlier in connection with conservation issues but did not relate it to the alienation of those immigrants benefiting from CAMPFIRE revenues, as I have done in my study. In another study, Matema and Anderson (2015) concluded that migrants were being excluded from local community economic activities in Mbire area in the northern part of Zimbabwe. In the case of Sengwe, only the latest arrivals were deemed ‘immigrants’, because in fact all the inhabitants in the area had migrated from somewhere at some point.

Land claims and park occupation by some of the Chiredzi inhabitants are strongly supported by a well-documented history of how the park was formulated and the actual effects it had on the settlements that were in those boundaries. This is not the main reason why people have managed to occupy the park; a general land resettlement environment is prevalent in Zimbabwe. Some authors (Sabomba 2010, Murombedzi 2003, Wolmer 2003) concurred that it was easy for locals to leave their current settlements to relocate to their historical homes because some migrants who witnessed those displacements were still alive. I have endeavoured here to trace the historical human movements and settlements in southern Zimbabwe from the precolonial until the post-colonial periods because of how relevant they are so relevant to the history of the area's conservation of nature and the current social economic processes.

Murombedzi (2003) wrote about the historical issues that were supposed to be solved by the establishment of the GLTFCA, but I found that it addressed little to nothing regarding the history of the people involved: the way it is set up is rather divorced from the people's complex history and does not address the social injustices that have long been perpetuated in the society. Twenty years later, livelihoods are still based on crop and livestock production, not on the tourism that was one of the predicted results of the GLTFCA. Locals have since concluded that they were not part of the whole GLTFCA process and thus have been excluded from wildlife protection or benefits – unlike during the peak of CAMPFIRE. After positioning humans in the Sengwe region's ecosystem throughout the following summaries and conclusion of the results, I show how HWCs are embedded in the social-economic processes of the Sengwe area.

In addition to the migration history of humans in Sengwe, I also looked at the history of the relationship between humans and wildlife. It was evident from the results that the historical community in Sengwe had always cultivated a strong connection to nature, largely through what looks to us today like a spirituality, which perpetuated a strong belief that wildlife was one of the tools used by the gods to control humans. This also revealed that humans do not have much power over nature but – on the contrary – are its pawns. There was also evidence of strong kinship norms, known locally as *Ubuntu*. With wildlife occupying high levels in the spiritual strata, spirit mediums were needed to intercede between humans and the gods as well as between humans and wildlife. The presence of spirit mediums was thus

of paramount importance in the survival of humans and in the management of human and wildlife conflicts in the historical Sengwe communities. The history in this area consists of an amalgamation of different cultural backgrounds.

Totems, songs, folk tales and taboos were among the most important tools used by the spiritual and traditional leadership to deter people from overexploiting wildlife resources. These tools were embedded in the social system, which made following them self-evident, because no one was in the position to question them. This is underpinned by Mavhunga (2014), who concluded that wildlife conservation was linked to indigenous knowledge systems that had advantages for both nature and humans. Terms like *xiphato, spirit mediums, Moya wecchaka* and *mudzimu* were mentioned throughout my interviews many times, which reveals a strong history of connections between humans and nature. The tragedy is that people in the present-day society no longer feel they have time to tell stories and thereby transmit the old values; they are instead busy striking a balance between striving to do better in a competitive capitalist world by doing different types of modern business and reverting to old ways of living that were dependent on natural resources. The latter option is ultimately unrealistic, being merely based on nostalgia of the older generation. By contrast, my study has established that most of the young people are totally disconnected from this past and wonder instead how they might delete it from their history. They do not want to be associated with that 'failed past' that was 'backward' and 'primitive'.

This carefully cultivated relationship between humans and wildlife was historically beneficial to both, and the separation of the two through fortress conservation resulted in the humans being separated from the very essence of their spirituality – having to remain outside the park but feeling intense connection to what lay inside it. Forced displacements from GNP were resisted from the onset and the land grab of 2000 that resulted in more than 7000 people occupying part of GNP is evidence that people still yearned to return to the park, certainly in part to reconnect to my sources of their spirituality. People were working hard to find ways back into the park and were in dispute with the park authorities, thus they took advantage of the chaotic land reform programme to find their way back. It shows that when given an opportunity, local communities would resettle in the national park.

The return to Africa's historical conservation practices would not be difficult because of the changes that have been happening in the cultural, political and social systems in the past. Native social, cultural and political systems were forced to change with the advent of Christianity, colonisation and democracy, but contrary to the opinions of several scholars (Sadomba 2010 and Palmer 1977), the antagonism between the Christian values and the traditional beliefs played a greater role in the development of conservation than colonialism did. Democracy, although young at this stage, caused people to question some of the norms and cultural systems that were based on limited knowledge and that caused people to adhere to strict spiritual control.

The past is something that people continue to feel nostalgia for, but it was acknowledged that there was no way that people can have the same relationship to their resources nowadays. Even if the conservation authorities mention the indigenous knowledge systems in their plans, there is nothing done to implement these in real terms. Therefore, there is a better term that can be used to describe the historical nexus between humans and wildlife, namely human-wildlife history (HWH). I see this as a discipline in itself – one that can be used to frame and discuss this historical African conservation context.

The results of this study further indicated that the humans' attack on wildlife is a form of HWC in GLTFCA. Humans tend to harm nature directly and indirectly, both willingly and by mistake. Humans attack wildlife not only out of defence but because their way of life intrudes into the affairs of wildlife. Attacks on wildlife takes various forms: killing through hunting and poaching through destroying their habitats by settlement expansion and fire. Killing of wildlife is usually justified by conservation authorities, and by local communities, if they are benefiting from it. This study has established that safari hunting is a gateway to poaching in an environment where the economy is not good enough and there is rampant corruption. Poaching in Zimbabwe is very difficult to deal with, especially considering the weak policing systems and low fines. Poaching is a lucrative business and there should be very deterrent fines or penalties for perpetrators who try to profit from it.

Fire is not usually mentioned in the HWC debate, but I establish here that it is one of the fastest ways humans are extinguishing the biodiversity in the savannah regions. The problem with fire is that it kills small animals directly, while at the same time destroying

their habitats. This results in more permanent ecosystem change, as the larger (predatory) animals are forced to migrate to other regions where they then end up putting more pressure on the resources there. Whether humans cause fire intentionally or not, it is still an attack on wildlife, because had if they not been in the conservation areas, the fires would have had no chance to start. While natural bush fires are not necessarily less harmful than anthropogenic ones, they are rare in the Sengwe area.

Instead of being a good adaptation measure towards human-wildlife conflicts, problem animal control (PAC) is one of the factors threatening the biodiversity. Apart from being a cause for dissent among the local communities, PAC is a euphemism for hunting elephants by professional hunters who take advantage of it to supplement their hunting quotas. My findings indicate that PAC is perceived by local communities as a way of getting meat from the elephants that are always crossing their crop fields, threatening them and their livelihoods, and as such, PAC has less to do with the real problems affecting them. Elephants are usually viewed as problem animals and reported to authorities as such, whereas local communities retaliate against other problem animals immediately when threatened, without informing authorities.

Wildlife poisoning is intentional and targeted usually at elephants, but the ripple on effects spread throughout the whole food chain. Vultures are usually affected in huge numbers. Poachers use poisons, mainly cyanide and mercury, which kill rapidly. The real extent of wildlife poisoning in Zimbabwe cannot be thoroughly ascertained and there are strong disagreements on the actual numbers of dead animals, mainly because of the political nature of elephant conservation. Zimbabwe wants to justify to CITES that it has a huge elephant population that it is managing properly, so its priority is to reduce the elephant population numbers announced to the public. In addition to the politicisation of elephant conservation, there are some parts of GNP that are too difficult to navigate, so much of the data were gathered through aerial surveys, which were not highly accurate. My study could establish that the numbers of animals killed could have been higher than initially recorded and the smaller carcasses may have been harder to see from the air, and thus omitted from the aerial counts.

One of the biggest challenges that worked in favour of poachers in the case of poisoning is what many authors (Duffy 1999) have referred to as lack of or weak response strategies, implying that the perpetrators were never apprehended or punished. It is still easy to kill wildlife on a grand scale and get away with it in this part of Zimbabwe, and this fact ultimately encourages money-seekers to venture into these activities. It is important for all conservation stakeholders to support the ZimParks by, for example in this case, providing information that helps it to successfully deal with poaching in the country. Some of the funding problems in antipoaching operations were erroneously blamed on ZimParks when, in fact, it is a nationwide economic problem.

I described how wildlife can also harm humans. The data I used for this study emerged from the everyday experiences of villages in Sengwe living on the edges of GNP. Some of the attacks were indirect, such as the transmission of diseases between wildlife and livestock which might make it very difficult to infer them to wildlife. In this chapter seven, I concluded that living close to conservation areas disenfranchises locals, which is what Dzingirai (2004) had also concluded. Besides harming humans, damaging crops and livestock, wild animals host a lot of diseases that are fatal to livestock. However, my research indicated that the attacks by wildlife were not on the offensive, but rather on the defensive, with the wild animals defending what they perceived as intrusion into their territory. This is due to the lack of buffer zones. Conservation areas were simply too close to human settlements, resulting in daily negative interactions between wildlife and humans. Of course, there were some attacks that occurred because wildlife was retaliating against human interference – this was especially the case for buffalo and crocodile attacks.

In this study I establish that the number of attacks by elephants is usually conflated and magnified by local community members so that they can justify why one of them should be killed according to the PAC guidelines. The main driving force is the need for meat and CAMPFIRE revenues that would come from it. Whilst there are genuine attacks from elephants, the authorities are always doubting the reports and often refraining from responding to them. Tensions between the community and ZimParks due to this inadequate response to problem animals end up escalating conflicts between humans and wildlife.

The other question was whether wildlife retaliate against human actions, as was depicted in the human wildlife history above. While we cannot see what exactly goes on in the minds of those animals, chances are high that an injured buffalo would attack humans if it perceived them to be a threat or the perpetrator of its pain. In most of my observations and interviews, those who had passed through the park had experienced being charged by wildlife. Wild animals, like humans, would do anything to protect themselves from their attackers. Studies by Schuetz and Trimper (2004) found that elephants' memories are so powerful that they can identify individuals who have harmed them in the past and are likely to attack them for it even many years later. There are chances that frequently grazing livestock in the park area have caused an escalation of wildlife attacks on them and on humans. The state should do everything in its capacity to protect the interests of both humans and wildlife by providing people with alternative ways of living and providing them proper separation from wildlife. There should be ways to reduce the human/wildlife competition for grazing areas and food sources.

The establishment of GLTFCA had no direct benefit in terms of reducing the frequency of wildlife attacks on humans; it was just the formation of another large area for wildlife. This is the general feeling that people have, which is also my conclusion in this case. Even though there has been a better community engagement through Gonarezhou Conservation Trust (GCT), the perception that wildlife is valued higher than people remain prevalent among the local communities.

In as much as wildlife attacks persist to some degree in Sengwe community, in chapter six I explored the adaptation measures that have been put in place to deal with these human-wildlife conflicts. Adaptation measures were implemented from the local community level – through a rich history of experiences living with nature; to the international level – through treaties and convention. There have been different activities carried out by individuals to reduce the impact of wildlife[46]. This chapter revealed that local communities' adaptation measures are sometimes deemed illegal and that resources to effectively deal with wildlife are often limited. However, the construction of lion-proof fences around homesteads in

[46] It was beyond the scope of this research to detail the ways in which wild animals have also adapted to human activities.

Sengwe and livestock pans have been relatively successful; these methods are not new – they have also been reported in other regions in Zimbabwe and around Africa.

The CAMPFIRE organisation was initiated by ZimParks but has by now been adopted by the local community; it is now being driven by the community desire for it to work rather than by any efforts made by the conservation authority. CAMPFIRE revenues have been lower, but the community has tried to make the best of the programme. Involvement in the CAMPFIRE programme translates into better perceptions of and attitudes towards wildlife: the only problem is that this proportion of villagers is lower than hoped. The biggest advantage that CAMPFIRE brings to wildlife conservation is that it serves as the starting point for any initiative by the state or NGOs working in the community because the governance structures are already in place. Even if it is the source of new challenges, like the 'elite capture' that was revealed in the previous chapter, it remains one of the most important organisational structures.

The method of elephant chili cakes and chili farming was also utilised in Mozambique where communities were dealing with elephant challenges. However, in Sengwe the programme was being developed by community members as a way of helping themselves, since ZimParks was usually overwhelmed by the number of calls to respond to HWC in these communities. My study brought to the fore the fact that elephant chili cakes in themselves have negative environmental effects insofar as they add substantial amounts of carbon dioxide into the atmosphere. This fact is naturally silenced by proponents of this programme, but it makes this adaptation measure unsustainable in the long-term.

8.1 Conclusion

This study specifically contributed to the literature on HWC and to a lesser extent to the HHC as nature-based conflicts. It also introduced the framework Human-Wildlife History (HWH) as a potentially significant conservation discipline that can contribute to knowledge on how humans can live harmoniously with nature. Adaptation measures to reduce incidences of HWC that were designed at the national level, mainly through the ZimParks, were not always successful. Following the poisoning incidences, there have been improved antipoaching measures through better engagement with the ZRP and army. Although the rate of capturing and punishing poachers remains low, the patrols have frequently deterred

potential poachers from entering these conservation areas. Since these combined patrols have started there have been fewer records of wildlife poisoning within the parks and surrounding areas.

TFCAs are just a magnification of CAMPFIRE where the locals are still living on the edges of conservation areas, dealing with wildlife in the same way as before and are supposed to make decisions basing on the problems they face. Even if it is a relatively new approach in nature conservation, TFCAs have been introduced on top what was there, and it inherited similar problems that were hindering CAMPFIRE the same time it introduced new layers of bureaucracy in conservation. The emergency on GTFCA had raised expectations among stakeholders but failed to live up to those expectations in the Zimbabwean context due to political and economic challenges.

In my study, the common belief that veterinary fences would prevent wildlife related diseases in livestock was overshadowed by the opinion that fences are merely a way of increasing the park size by annexing some of the communal lands into the park. Since the grazing areas inside the park are largely better than outside the park, herders were not in support of the fencing project. This was also why the fence would regularly be pulled down or stolen by some members of the disgruntled community. When one looks past the lawlessness of the action by the upset community members, one sees that this is simply not a viable solution within the complex nexus of national park-community relations.

Elephant culling is, according to the park managers, a way to relieve elephant population pressure in the park and surrounding areas, which was also a better way of reducing HWC. Culling is supported by local communities, since they receive the bulk of the meat and supposedly receive CAMPFIRE revenues, if it is done in the communal areas. Elephants can be their own habitat's worst enemy due to their bulky and destructive feeding behaviour. This makes culling a debatable solution, somewhere in between an attack on wildlife and a solution to human wildlife conflicts. Animal rights groups favour relocation to other areas with similar environments over killing them.

At the international level there are treaties like CITES that are even known at the local level as a hindrance to properly benefiting from wildlife resources. It is also hated by the state and CAMPFIRE beneficiaries, but it has proven to be effective in providing checks and

balances to otherwise uncontrollable governments. However, there are other treaties that are not known at all at local levels, but they are used by the state to draft national bylaws and management frameworks that have been effective in the management of wildlife. Regional bodies like SADC have their own treaties that are not usually disseminated or are not accepted by nation member states, making them ineffective policies.

A new finding in this international context is how the social media can alter or advocate for a better course of wildlife conservation: the *#CeciltheLion* movement, for example, received millions of comments on Twitter. The worldwide condemnation of safari hunting through social media has placed more negative attention on hunters and has deterred poaching. The local community is not so exposed to twitter, but the government is the one being monitored by virtual world, which had an impact on donor funding and foreign direct investments (FDI). The state therefore visibly increased its presence in the protection of wildlife during the days of Cecil the Lion by increasing the number of game rangers in the protected areas and paying attention to poaching leads and increasing fines for perpetrators. Social media can be an effective means for future information dissemination and advocacy, effectively lessening human wildlife conflicts.

Proponents of GLTP wanted to improve the political security situation in the areas reported in the Peace Parks (2003) but credit could not be directed to trans-frontier conservation. The region is not flaring of insurgency and terrorism in Zimbabwe and South Africa, but Mozambique remains a volatile region. Cooperation in conservation is mainly accomplished through the sharing of information, and in this thesis, I have established that there was funding from GIZ and other funding organisations and stakeholders of the GLTFCA. There have been a lot of other developments in the 20 years since the formation of the GLTFCA. In Zimbabwe, as we have observed, there is no tourism to speak of due to the political and economic environment in the whole country. This has overshadowed efforts to improve tourism through cooperation. In other words, the tourism advantage went to South Africa's Kruger National Park, which has better facilities and is situated in a more politically stable environment than other parks in Mozambique and Zimbabwe.

Lastly, the land reform programme served primarily to amplify the strong wish to reclaim land in the national park. People's abiding wish to find 'free' spaces drives them to occupy

these concentration-camp-like 'keeps or protected villages within the bounds of the park. The wish to work the fields freely remains one of the major factors driving the political landscape in Zimbabwe, which is in turn affecting conservation strategies. There were some worries that the land question may ruin the GLTFCA project because of the possibility of more park invasions, but up to now it remains a threat, not a reality; since the occupation of Chitsa clan in the early 2000s, there have been no further invasions. Local institutions remain some of the alternatives to the conservation of wildlife resources through an organised participatory approach and involvement. It is still talked about in various stakeholder meetings but there is no real pressure to do it.

Bibliography

1) Adams WM, and Hutton J. (2007) People, Parks and Poverty: Political Ecology and Biodiversity Conservation. *Conservation Society; 5:147-83*
2) Adams, Jonathan S. & McShane, Thomas O. (1992*). The myth of wild Africa: conservation without illusion.* New York: W.W. Norton
3) Adams, W. M. (2003). *'Nature and the colonial mind'* Edited by: Adams and Mulligan. 16–50
4) Aisher A. (2007) Voices of Uncertainty: Spirits, Humans and Forests in Upland Arunachal Pradesh, India, South Asia: *Journal of South Asian Studies, 30:3, 479-498,*
5) Aisher, Alex and Damodaran, Vinita (2016) Introduction: human-nature interactions through a multispecies lens. *Conservation and Society, 14 (4). pp. 293-304.* ISSN 0972-4923
6) Andersson J A, de Garine-Witchatitsky M, Dzingirai V, David H. M., Giller K. E. (2012). *Trans frontier Conservation Areas: People Living on the Edge*. Earthscan Ltd
7) Andrade, G. S. M., and J. R. Rhodes. 2012. Protected areas and local communities: an inevitable partnership toward successful conservation strategies? *Ecology and Society* **17**(4): 14. http://dx.doi.org/10.5751/ES-05216-170414
8) Balint, P. and Mashinya, J. (2006) The Decline of a Model Community-Based Conservation Project: Governance, Capacity, and Devolution in Mahenye, Zimbabwe. *Geoforum, 37, 805-815*\
9) Beinart W. (1989) Introduction: the politics of colonial conservation, *Journal of Southern African Studies, 15:2, 143-162*, DOI: 10.1080/03057078908708195
10) Benjamin-Fink, N. (2019). An assessment of the human-wildlife conflict across Africa. In Ferretti, M. (Ed.), Wildlife population monitoring (pp. 1–9). IntechOpen Limited.
11) Berkes, F and Farvar, M. T (1989); Introduction and overview. In: Berkes, F ed., editor. *Common Property Resources: Ecology and Community-based Sustainable Development*. London: Belhaven Press.
12) Berkes, F. (2007). Understanding uncertainty and reducing vulnerability: lessons from resilience thinking. *Nat Hazards 41, 283–295*

13) Bernard, H. (2000) Social Research Methods: Qualitative and Quantitative Approaches, Sage, Thousand Oaks.

14) Bhatasara, S., Nyamwanza, A. M. &Kujinga, K. 2013.Transfrontier parks and development in southern Africa: The case of the Great Limpopo Transfrontier Park. Development Southern Africa, 30, 629-639.

15) Blaikie, P. (1985). *The Political Economy of Soil Erosion in Developing Countries* (1st ed.). Routledge. https://doi.org/10.4324/9781315637556

16) Bollig, M. (2016). Towards an Arid Eden? Boundary making, governance and benefit sharing and the political ecology of the "new commons" of Kunene Region, Northern Namibia. *International Journal of the Commons, 10(2), 771–799*. DOI: http://doi.org/10.18352/ijc.702

17) Bond (2015). "Making Sense of Human–Elephant Conflict in Laikipia County, Kenya". *Society and Natural Resources 28 (3): 312-327.*

18) Bond, I. (2001). *CAMPFIRE and the incentives for institutional change*. In D. Hulme & M. Boston.

19) Booth, V. R. (1989). The number of elephants killed in Zimbabwe: 1960 – 88. In R. B. Martin, G. C. Craig and V. R.Booth (eds.) *Elephant Management in Zimbabwe*. Dept. National Parks and Wildlife Management, Report:

20) Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(2), 77–101*. https://doi.org/10.1191/1478088706qp063oa

21) Brockington, D. (2002) *Fortress Conservation. The Preservation of the Mkomazi Game Reserve, Tanzania*, James Currey, Oxford,

22) Bromley D. W. and Cernea, M. (1989). The Management of Common Property Natural

23) Bryant, R. L. & Bailey, S. (1997). *Third World political ecology*. London ; New York : Routledge

24) Bryne J (2011) *The human relationship with nature* .In book: The Routledge Handbook of Urban Ecology Chapter: 6 Publisher: Routledge

25) Büscher, B. (2010), Anti-Politics as Political Strategy: Neoliberalism and Transfrontier Conservation in Southern Africa. *Development and Change, 41: 29-51*. https://doi.org/10.1111/j.1467-7660.2009.01621.x

26) Carson Rachel and Katherine L. Howe. 1951. The Sea Around Us. [Eighth printing] ed. New York: Oxford University Press.
27) Carson, R., (1962), *Silent Spring*, Fortieth Anniversary Edition, Houghton Mifflin,
28) Chambers, R. and Conway, G. (1992) Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, IDS Discussion Paper 296, Brighton: IDS
29) Chibememe G., Muboko N, Gandiwa E, Kupika O. L., Muposhi V. K. and Pwiti G. (2014) Embracing indigenous knowledge systems in the management of dryland ecosystems in the Great Limpopo Transfrontier Conservation Area: the case of Chibememe and Tshovani communities, Chiredzi, Zimbabwe, *Biodiversity, 15:2-3, 192-202*,
30) Child, B. (2004). Building the CAMPFIRE Programme. Helping Villagers Protect African Wildlife. PERC Report, June, 3-6.
31) Child, G. (1995). *Wildlife and People: The Zimbabwean Success. How the conflict between animals and people became progress for both*. WISDOM Foundation, Harare and New York; 267pp.
32) Chirozva (2015) Community agency and entrepreneurship in ecotourism planning and development in the Great Limpopo Transfrontier Conservation Area, Journal of Ecotourism, 14:2-3, 185-203, DOI: 10.1080/14724049.2015.1041967
33) Chirozva C, (2009). *Rethinking the building blocks: a critique of demand driven decentralisation in Chizvirizvi resettlement area in Chiredzi rural district council of Zimbabwe*. In Mukamuri B.B, Manjengwa J.M and Anstey S (eds.), Beyond proprietorship: Murphree's law on community-based natural resource management in southern Africa. Weaver Press, Harare
34) Chiutsi, S. (2014). Transfrontier Conservation, Livelihoods And Sustainable Tourism-A Review Of Community Perceptions Of The Value Of The Great Limpopo Transfrontier Conservation Area (GLTFCA). *European Scientific Journal, ESJ*, *10*(10).
35) Cline, W. R. (2007). *Global warming and agriculture: End-of-century estimates by country*. Peterson Institute.
36) Conklin, H.E. (1954), Observational Designs for the Social Sciences. American Journal of Agricultural Economics, 36: 327-330. https://doi.org/10.2307/1233082
37) Conover, M. R. (2002). Resolving human–wildlife conflicts: the science of wildlife damage management. Lewis Publishers, Boca Raton, Florida, USA

38) Davidar, P. (2018). The term human-wildlife conflict creates more problems than it resolves: better labels should be considered. *Journal of Threatened Taxa 10(8): 12082–12085*;

39) Davidson-Hunt and I Miller, A. (2010). Fire, Agency and Scale in the Creation of Aboriginal Cultural Landscapes. *Human Ecology, 38*(3), 401-414. Retrieved February 19, 2021, from http://www.jstor.org/stable/40603031

40) DFID (2000): Sustainable Livelihoods Guidance Sheets. Department for International Development.

41) Dickman (2010) Complexities of conflict: the importance of considering social factors for effectively resolving human-wildlife conflict *Anim. Conserv., 13 (5) (2010), pp. 458-466*

42) Dickmann,A. J,Marchini, S., Manfredo, M. J.(2013) '*The human dimension in addressing conflict with large carnivores* In book: Key Topics in Conservation Biology, Volume II Chapter: The importance of the human dimension in addressing conflict with large carnivores Wiley-Blackwell Ed: David W. MacDonald

43) Douglas, L. R., & Veríssimo, D. (2013). Flagships or Battleships, *Environment and Society, 4(1), 98-116.*

44) Duffy, R. (2000). *Killing for Conservation. Wildlife Policy in Zimbabwe*. The International African Institute. James Currey, Oxford, U.K

45) Duffy, R. (2006). The potential and pitfalls of global environmental governance: The politics of transfrontier conservation areas in Southern Africa. *Political Geography 25: 89-112.*

46) Duffy, R. (1997). 'The Environmental Challenge to the Nation-State: Superparks and National Parks Policy in Zimbabwe'. *Journal of Southern African Studies*, 23(No. 3): 441–451.

47) Dzingirai, V. (1994). Politics and ideology in human settlement: getting started in Sikomena area of Chief Dobola, Binga. *Zambezia, 21(2),176-176*.

48) Dzingirai, V. (1996). Every man must settle where they want: The politics of settlement in the context of Communal Area Management Programme for Indigenous Resources CAMPFIRE. *Zambezia, 23 (2), 19-30*.

49) Dzingirai, V. (2003). There is no place for Ndebele in CAMPFIRE: The Conflict over Land in the Zambezi Valley of Zimbabwe. *Journal of Southern African Studies, 29 (2), 445-461*.

50) Dzingirai, V. (2004). *The culture of giving and its relationship to saving*. In Lonte, H., and Hospes, O. (Eds.). Livelihood and Microfinance: Anthropological and Sociological Perspective on savings and Debt. Amsterdam: Eburon Academic Publishers

51) Dzingirai, V. 1995. *Take back your CAMPFIRE: a study of local level perceptions to electric fencing in the framework of Binga's CAMPFIRE programme, Mount Pleasant, Harare: Centre for Applied Social Sciences, University of Zimbabwe, 1995 (CASS Occasional Paper Series—NRM).*

52) Emerton, L. (1999). Mount Kenya: The Economics of Community Conservation. Technical Report

53) Englund H, Leach J*. (2000)* Ethnography and the Meta-Narratives of Modernity*. Curr. Anthropol. 225-248.* PMID: 10702142.

54) FAO (2007) Crop and food supply assessment mission to Zimbabwe.

55) Fedriani, J.M., García, L.V., Sánchez, M.E., Calderón, J. and Ramo, C. (2017), Long-term impact of protected colonial birds on a jeopardized cork oak population: conservation bias leads to restoration failure. *J Appl Ecol, 54: 450-458*.

56) Fernberg R., Nelson P. and Hassini S, (2013) *Environment and Society: Advances in Research 4 (2013): 1–4* © Berghahn Books doi:10.3167/ares.2013.040101

57) Food and Agriculture Organization (FAO) (2009). *Human-wildlife conflict in Africa: causes,*

58) Fortmann, L.,and Nhira, C. (1992). *Local management of trees and woodland resources in Zimbabwe: a tenurial niche approach*. Oxford Forestry Institute, University of Oxford.

59) Gandiwa Z., Patience & Mango, Lovemore & Gandiwa, Edson & Goza, David & C, Parakasingwa & E, Chinoitezvi & J, Shimbani & J, Muvengwi. (2013). Variation in woody vegetation structure and composition in a semi-arid savanna of Southern Zimbabwe. *International Journal of Biodiversity Conservation. 5.* 71-77. 10.5897/IJBC12.095.

60) Gandiwa, E. (2011). 'Wildlife Tourism in Gonarezhou National Park, Southeast Zimbabwe: Opportunities for Wildlife Viewing', *Journal of Sustainable Development in Africa, 13(1*), 304-315.

61) Gandiwa, E. (2011). Assessment of livestock and human settlement encroachment into northern Gonarezhou National Park, Zimbabwe. *Journal of Sustainable Development in Africa, 13(5),* 19-33.

62) Gandiwa, E. (2012). Local knowledge and perceptions of animal population abundances by communities adjacent to the northern Gonarezhou National Park, Zimbabwe. *Tropical Conservation Science, 5(3), 255-269*.

63) Gillingham, S. and Lee, P.C. (1999) The Impact of Wildlife-Related Benefits on the Conservation Attitudes of Local People around the Selous Game Reserve, Tanzania. Environmental Conservation, 26, 218-228.

64) Gissibl (2016), The Nature of German Imperialism. Conservation and the Politics of Wildlife in colonial East Africa. New York/Oxford: Berghahn. The Environment in History-Series

65) Gumperz, J. J., (1980): *The sociolinguistic basis of speech act theory*, in: J. Boyd und S. Ferrara (Hrsg.), Speech Act Theory Ten Years After. Mailand.

66) Gusset, M., Swarner, M., Mponwane, L., Keletile, K., & McNutt, J. (2009). Human–wildlife conflict in northern Botswana: Livestock predation by Endangered African wild dog *Lycaon pictus* and other carnivores. *Oryx, 43*(1), 67-72. doi:10.1017/S0030605308990475

67) Guthrie, D. (2005). Organizational Learning and Productivity State Structure and Foreign Investment in the Rise of the Chinese Corporation. Management and Organization Review, 1(2), 165-195. doi:10.1111/j.1740-8784.2005.00008.x

68) Guy, C., Thiagavel, J., Mideo, N., & Ratcliffe, J. M. (2019). Phylogeny matters: Revisiting 'a comparison of bats and rodents as reservoirs of zoonotic viruses'. *Royal Society Open Science, 6, 181182.*

69) Hammersley, M. & Atkinson, P. (2007) *Ethnography Principles in Practice*: Third Edition. Hoboken: Taylor & Francis.

70) Hanson, R. K., Bourgon, G., Helmus, L., & Hodgson, S. (2009). The principles of effective correctional treatment also apply to sexual offenders: A meta-analysis. Criminal Justice and behaviour, 36(9), 865-891.

71) Haraway, D. J. (2008). *When Species Meet*. Minnesota: University of Minnesota Press
72) Hill, Catherine. (2015). Perspectives of "Conflict" at the Wildlife-Agriculture Boundary: 10 Years On. *Human Dimensions of Wildlife. 20.* 10.1080/10871209.2015.1004143.
73) Holling, C.S. (1993), Investing in Research for Sustainability. Ecological Applications, 3: 552-555. https://doi.org/10.2307/1942076
74) Homer-Dixon, T. (1999). *Environment, Scarcity, and Violence*. PRINCETON, NEW JERSEY: Princeton University Press. doi:10.2307/j.ctt7pgg0
75) Hosey, G., and Melfi, V. (2014). Human-animal interactions, relationships and bonds: A review and analysis of the literature. *International Journal of Comparative Psychology*.
76) Hoyt, J. A. (1994). *Animals in peril: how" sustainable use" is wiping out the world's wildlife*. Penguin.
77) Hughes, D. M. 2001. 'Rezoned for business: how ecotourism unlocked black farmland in eastern Zimbabwe'. *Journal of Agrarian Change*, 1: 575–599.
78) Hulme, D. and Murphree, M., eds. 2001. "eds". In *African Wildlife and Livelihoods: the promise and performance of community conservation* Oxford: James Currey.
79) Hutton J, Adams W & Murombedzi J C (2005) Back to the Barriers? Changing Narratives in Biodiversity Conservation, *Forum for Development Studies, 32:2*, 341-370,
80) Ingold, T. (2000). *The perception of the environment: essays on livelihood, dwelling and skill.* London: Routledge
81) Isabu, M. O., & AKINLOSOTU, N. T. (2017). Influence of Age and Salary Earnings on Teachers' Organisational Citizenship Behaviour (OCB) in Secondary Schools in Akure South Local Government Area of Ondo State, Nigeria. *Journal of Education and Practice*, *8*(26), 91-95.
82) IUCN, (2004). Indigenous and local communities and protected areas, towards equity and enhanced conservation. The World Conservation Union
83) Jani V, Anton H. de Wit, and Nigel L. Webb (2019) "Conflict Over Wildlife Conservation in the Mbire District, Northern Zimbabwe," *African Journal of Wildlife Research 49(1)*, 137-141, https://doi.org/10.3957/056.049.0137

84) KIRKSEY, S.E. and HELMREICH, S. (2010), THE EMERGENCE OF MULTISPECIES ETHNOGRAPHY. Cultural Anthropology, 25: 545-576. https://doi.org/10.1111/j.1548-1360.2010.01069.x

85) Kohn, E. (2007). How dogs dream: Amazonian natures and the politics of transspecies engagement. American Ethnologist, 34, 3–24.

86) Kosek, J. (2010), ECOLOGIES OF EMPIRE: On the New Uses of the Honeybee. *Cultural Anthropology, 25: 650-678.* https://doi.org/10.1111/j.1548-1360.2010.01073.x

87) Kosek, J. 2006. *Understories: The Political Life of Forests in Northern New Mexico.* Durham, NC: Duke University Press.

88) Le Bel, T. P., Burnett, R., Maruna, S., Bushway, S. (2008). The "chicken and egg" of subjective and social factors in desistance from crime. European Journal of Criminology, 5, 131-159.

89) Leach, E. W. (1964, January). Georgic Imagery in the Ars amatoria. In *Transactions and Proceedings of the American Philological Association* (Vol. 95, pp. 142-154). Johns Hopkins University Press, American Philological Association.

90) Lele, S., O. Springate-Baginski, R. Lakerveld, D. Deb, and P. Dash. (2013). Ecosystem services: origins, contributions, pitfalls, and alternatives. *Conservation and Society 11(4):343-358.*

91) Lévi-Strauss, Claude. 1963. *Totemism*. Trans. R. Needham. Boston: Beacon Press.

92) Lewa, S. K., Maluki, P., Vindevov, V., & Farah, I. (2017). Actors in managing human-wildlife conflict: The case of Arabukosokoke forest, Kenya. *International Academic Journal of Arts and Humanities, 1(2), 37-50.*

93) Louafi, Sélim and Jean-Frédéric Morin, (2004) *International governance of biodiversity: Involving all the users of genetic resources*, IDDRI, ,

94) Lubilo, R. and Child, B. 2010. *The Rise and fall of Community Based Natural Resource Management in Zambia's Laungwa Valley: An illustration of Micro- and Macro-Governance Issues*. In: Nelson F. (Eds), Community Rights, Conservation and Contested Land, the Politics of Natural Governance in Africa. London and Washington DC: Earthscan.

95) MacKenzie, J. M. (1988). *The Empire of Nature: Hunting, Conservation and British Imperialism* Manchester: Manchester University Press

96) MacKenzie, J. M. (1997) *Empires of Nature and the Nature of Empires: Imperialism, Scotland and the Environment,* the Callander Lectures 1995, University of Aberdeen, Tuckwell, East Linton

97) Madden, F and Mcquinn (2014) Conservation's blind spot: The case for conflict transformation in wildlife conservation *Biological Conservation Volume 178*, Pages 97-106

98) Madden, F. (2004) Creating coexistence between humans and wildlife: global perspectives on local efforts to address human-wildlife conflict *Human Dimensions Wildlife, 9 (2004)*, pp. 247-257

99) Madzwamuse, M, (2010). Climate Governance in Africa-Adaptation Strategies and Institutions: A synthesis report. Retrieved July 22, 2020, from http://www.boell.de/en/ecology/africa-climate-governance-in-africa-adaptation-strategies-and-institutions-10914.html

100) Mapedza, E., & Bond, I. (2006). Political Deadlock and Devolved Wildlife Management in Zimbabwe: The Case of Nenyunga Ward. *The Journal of Environment & Development, 15(4), 407–427*.

101) Marshall, K., White, R., & Fischer, A. (2007). Conflicts between humans over wildlife management: On the diversity of stakeholder attitudes and implications for conflict management. *Biodiversity and Conservation, 16(11)*, 3129–3146.

102) Masona, T. (1987) Colonial Game Policy: A study of the origin and administration of game policy in southern Rhodesia - 1890 - 1945. Unpublished dissertation, department of Economic History, University of Zimbabwe.

103) Matchock, R. L. (2015). Pet ownership and physical health. *Current Opinion in Psychiatry, 28(5), 386-392.*

104) Matema, Steven & Andersson, Jens. (2015). Why are lions killing us? Human–wildlife conflict and social discontent in Mbire District, northern Zimbabwe. *The Journal of Modern African Studies. 53.* 93-120. 10.1017/S0022278X14000664.

105) Matowanyika, J. (1989). Cast Out of Eden: Peasants Versus Wildlife Policy in Savanna Africa. *Alternatives, 16*(1), 30-39.

106) Mavhunga, C. (2014). Seeing the National Park from Outside It: On an African Epistemology of Nature. *RCC Perspectives,* (1), 53-60, from www.jstor.org/stable/26241185

107) McCune S., Kruger K., James A. Griffin, Layla Esposito, Lisa S. Freund, Karyl J. Hurley, Regina Bures, Evolution of research into the mutual benefits of human–animal interaction, *Animal Frontiers*, Volume 4, Issue 3, July 2014, Pages 49–58, https://doi.org/10.2527/af.2014-0022

108) Metcalfe, S. 1994. *'The Zimbabwe Communal Areas Management Programme for Indigenous Resources (CAMPFIRE)'* Edited by: Western, Wright and Strum. 161–192.

109) Mitchell, T. (2002). *Rule of experts: Egypt, techno-politics, modernity*. University of California Press.

110) Moloketi GR (2009). Towards a common understanding of corruption in Africa. Public Policy and Administration, 24(3): 331-338

111) Mombeshora S (2006) Assessment of livelihoods in Chitsa settlement in Gonarezhou National Park. BioHub, Harare

112) Mombeshora, S. and Le Bel, S., (2009) "People-Park Conflicts: The Case of Gonarezhou and Chitsa Community in South East Zimbabwe", *Biodiversity Conservation,* 18

113) Muboko N, V Muposhi, T Tarakini, E Gandiwa, S Vengesayi and E Makuwe (2014) Cyanide poisoning and African elephant mortality in Hwange National Park, Zimbabwe: a preliminary assessment *Pachyderm 55:92-94*

114) Mukamuri, B. B. and Mavedzenge T 1997 . 'People and Big Animals: an evaluation of the Campfire project in Guruve District. Harare, CIRAD

115) Mukamuri, B.B., Campbell, B.M., and Kowero, G. (2003), 'Local organisations and natural resource management in the face of economic hardships: A case study from Zimbabwe',*Tanzania Journal of Forestry and Nature Conservation*, 75.

116) Munthali, S.M. (2007), Transfrontier conservation areas: Integrating biodiversity and poverty alleviation in Southern Africa. Natural Resources Forum, 31: 51-60.

117) Mupangwa W (2009) Water and nitrogen management for risk mitigation in semi-arid cropping systems. PhD thesis, University of the Free State, Bloemfontein, South Africa

118) Murombedzi, J. (1992). Decentralization or recentralization? Implementing campfire in the Omay communal lands. CASS Working Paper #2, Harare.

119) Murombedzi, J.C. (2003). *Pre-colonial and colonial conservation practices in southern Africa and their legacy today.* Murphree (Eds.), African wildlife and livelihoods. Oxford, UK: James Currey.

120) Murphree, M. (2001). '*A case study of ecotourism development from Mahenye, Zimbabwe*' Edited by: Hulme and Murphree. 177–194.

121) Muruthi P. (2005). Human wildlife conflicts: lessons learned from AWF's African heartlands. AWF Working Papers. Nairobi, Kenya, African Wildlife Foundation.

122) Mutandwa, E. and Gadzirayi, C.T. (2007) Impact of Community-Based Approaches to Wildlife Management: Case Study of the CAMPFIRE Programme in Zimbabwe. *International Journal of Sustainable Development & World Ecology, 14, 336-344*

123) Nelson, K. (2003). *Narrative and self, myth and memory: Emergence of the cultural self.* In R. Fivush & C. A. Haden (Eds.), *Autobiographical memory and the construction of a narrative self: Developmental and cultural perspectives* (p. 3–28). Lawrence Erlbaum Associates Publishers.

124) Neumann, R.P. (1998). *Imposing Wilderness: Struggles Over Livelihood and Nature Preservation in Africa.* University of California Press, Berkeley.

125) Nyhus, P. J., (2016) Human–Wildlife Conflict and Coexistence (October 2016). *Annual Review of Environment and Resources, Vol. 41, pp. 143-171*. Available at SSRN: https://ssrn.com/abstract=2859448 or http://dx.doi.org/10.1146/annurev-environ-110615-085634

126) Oates, J. F. 1999. *Myth and reality in the rainforest: How conservation strategies are failing in West Africa* Berkeley: University of California Press

127) Ogden, L., Heynen, N., Oslender, U., West, P., Kassam, K. and Robbins, P. (2013), Global assemblages, resilience, and Earth Stewardship in the Anthropocene. *Frontiers in Ecology and the Environment, 11: 341-347*. https://doi.org/10.1890/120327

128) Ostrom, V., & Ostrom, E. (1977). *Public Goods and Public Choices*. In Alternatives for Delivering Public Services: Toward Improved Performance (pp. 7-49).

129) Parathian, H.E., McLennan, M.R., Hill, C.M. et al. Breaking Through Disciplinary Barriers: Human–Wildlife Interactions and Multispecies Ethnography. Int J Primatol 39, 749–775 (2018). https://doi.org/10.1007/s10764-018-0027-9

130) Peace Parks Foundation. 2003. 'US Congress supports Peace Parks ', press release, 17.7.2003, available from Peace Parks Foundation website.

131) Peet, R. and Watts, M. (1996) Liberation Ecologies: Environment, Development, Social Movements. Routledge, London. http://dx.doi.org/10.4324/9780203286784

132) Peterson, C. (1991c). The meaning and measurement of explanatory style. *Psychological Inquiry, Z, 1-10.*

133) Peterson, T. C., Michael A. Taylor Rodger Demeritte Donna L. Duncombe Selvin Burton Francisca Thompson Avalon Porter Mejia Mercedes Elba Villegas Rony Semexant Fils Albert Klein Tank Albert Martis Robert Warner Antonio Joyette Willis Mills Lisa Alexander Byron Gleason (2002) Recent changes in climate extremes in the Caribbean region, *J. Geophys. Res., 107(D21), 4601*, doi:10.1029/2002JD002251, 2002.

134) Pooley, C. (2020). *Mobility, History of Everyday.* In A. Kobayashi (Ed.), International Encyclopedia of Human Geography, 2nd edition (2nd ed. ed., Vol. 9, pp. 149-154). Elsevier

135) Pooley, S., Barua, M., Beinart, W., Dickman, A., Holmes, G., Lorimer, J., … Milner-Gulland, E. J. (2017). An interdisciplinary review of current and future approaches to improving human–predator relations. *Conservation Biology, 31(3)*, 513–523.

136) Pwiti, G. 1991. Trade and economies in southern Africa: the archaeological evidence. Zambezia 18 (2), 119-129.

137) Raik, D. B., Wilson, A. L., & Decker, D. J. (2008). Power in natural resources management: an application of theory. Society and natural resources, 21(8), 729-739.

138) Redpath, S.M., J. Young, A. Evely, W.M. Adams, W.J. Sutherland, A. Whitehouse, A. Amar, R.A. Lambert, J.D. Linnell, A. Watt & R.J. Gutierrez (2013). Understanding and managing conservation conflicts. *Trends in Ecology & Evolution* 28: 100–109;

139) Redpath, S.M., S. Bhatia, & J. Young (2015). Tilting at wildlife: reconsidering human-wildlife conflict. *Oryx* 49: 222–225;

140) Resources, World Bank Discussion Papers, No. 57, Washington, D.C.

141) Ribot, J. (1999). Decentralisation, participation and accountability in Sahelian forestry: Legal instruments of political-administrative control. *Africa, 69*(1), 23-65. doi:10.2307/1161076

142) Robbins, P. (2004). Political ecology: A critical introduction. Malden, MA: Blackwell Pub.

143) Rusinga, O. and Mapira, J. (2012), "Challenges of transfrontier conservation areas: Natural resources nationalism, security and regionalism in the southern African development community region", *International Journal of Development and Sustainability, Vol. 1 No. 3*, pp. 675- 687.

144) Russell, G. (2006). Globalisation, Responsibility and Virtual Schools. *Australian Journal of Education, 50(2), 140–154.*

145) Sadomba W.Z. (2013). A Decade of Zimbabwe's Land Revolution: The politics of the War Veteran Vanguard. In Moyo, S., and Chambati, W. (Eds) (2013). Land and Agrarian Reform in Zimbabwe: Beyond white-settler capitalism. Dakar: CODESRIA.

146) Sadomba, W. (2011). War Veterans in Zimbabwe's Revolution Challenging neo-colonialism and settler and international capital. Boydell & Brewer.

147) Schnegg M. and Bollig M. (2016) Institutions put to test: Community-based water management in Namibia during a drought. *Journal of Arid Environments 124; 62-71*

148) Schnegg M. and Kiaka R. D. (2018) Subsdised elephants: Community-based resource governance and environmental (in)justice in Namibia *Geoforum 93; 105-115*

149) Schütz, G. M., & Trimper, S. (2004). Elephants can always remember: exact long-range memory effects in a non-Markovian random walk. *Physical review. E, Statistical, nonlinear, and soft matter physics*, *70*(4 Pt 2), 045101. https://doi.org/10.1103/PhysRevE.70.045101

150) Scoones, I. (1999). New Ecology and the Social Sciences: What Prospects for a Fruitful Engagement? Annual Review of Anthropology, 28, 479-507.

151) Scoones, I. (2014). *Debating Zimbabwe's Land Reform*. Institute of Development Studies.

152) Scoones, I., N. Marongwe, B. Mavedzenge, J. Mahenehene, F. Murimbarimba and C. Sukume, (2010). *Zimbabwe's Land Reform. Myths and Realities*. Woodbridge: James Currey.

153) Shaw, Ian Graham Ronald, Paul F. Robbins, and John Paul Jones III. 2010. "A Bug's Life and the Spatial Ontologies of Mosquito Management." *Annals of the Association of American Geographers* 100, no. 2: 373–92

154) Siex, K., & Struhsaker, T. (1999). Colobus Monkeys and Coconuts: A Study of Perceived Human-Wildlife Conflicts. *Journal of Applied Ecology, 36(6), 1009-1020*. Retrieved February 19, 2021, from http://www.jstor.org/stable/2655876

155) SINGER, P. (1986) *Practical Ethics* (New York, Cambridge University Press).

156) Singh, J. & van Houten H. (2002). Post-colonial Conservation in South Africa: Same Emperors, new Clothes? *GeoJournal, 58:253–263*.

157) Skogen, Ketil & Krange, Olve. (2003). A Wolf at the Gate: The Anti-Carnivore Alliance and the Symbolic Construction of Community. *Sociologia Ruralis*. 43. 309 - 325. 10.1111/1467-9523.00247.

158) Spardley J (1980) *Participant Observation* New York: Holt, Rinehart and Winston.

159) Spierenburg, M., C. Steenkamp, and H. Wels. (2008). Enclosing the local for the global commons: Community land rights in the Great Limpopo Transfrontier Conservation Area. *Conservation and Society 6, no. 1: 87-97.*

160) Steenkamp C, Uhr J (2000) *The Makuleke land claim: Power relations and community based natural resources management*. Evaluating Eden Series Discussion Paper No. 18. IIED, London

161) Stengers, I. (2010). *Cosmopolitics I*. Minneapolis: University of Minnesota Press

162) Sundberg. (2011). "Diabolic Caminos in the Desert and Cat Fights on the Río: A Posthumanist Political Ecology of Boundary Enforcement in the United States–Mexico Borderlands." *Annals of the Association of American Geographers* 101, no. 2: 318–36.

163) Sutton, C. M. (2004). Analysis and linking of international measurement comparisons. *Metrologia*, *41*(4), 272.

164) Swatuk, L. A. (2005). Political challenges to implementing IWRM in Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, *30*(11-16), 872-880.

165) Tafangenyasha C, Nyasha S, Kuguyo T (2017) Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) and the Future of Its State: The Case for Zimbabwe. J *Earth Environ Sci 2017: J107. DOI: 10.29011/ JEES-107.* 100007

166) Tavuyanago, B. (2017). "Our fathers and grandfathers were born here…" Shangaan eviction experiences from the Gonarezhou National Park, 1957-1968. *Historia*, *62*(2), 46-67. https://dx.doi.org/10.17159/2309-8392/2017/v62n2a3

167) Tavuyanago, B., & Makwara, E.C. (2011). CONTESTED LANDSCPE: THE STRUGGLE FOR THE CONTROL OF GONAREZHOU SINCE THE INCEPTION OF COLONIAL RULE IN ZIMBABWE.

168) Terborgh, J. (1999). *Requierements for Nature* Washington, DC: Island Press/Shearwater Books

169) The Herald Zimbabwe, Mysterious elephant disease puzzles vets in Zimbabwe 12 December 2016.

170) Thone F (1935) Nature rambling: we fight for grass. The Science Newsletter 27/717:14

171) Tom P. (2000), The debate over elephant culling: Is it ever morally justified to cull elephants? *Zambezia, XXIX (i).*

172) Treves A.,and Palmqvist P. (2007) Reconstructing Hominin Interactions with Mammalian Carnivores (6.0–1.8 Ma). In: Gursky S.L., Nekaris K.A.I. (eds) Primate Anti-Predator Strategies. Developments in Primatology: Progress and Prospects. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-34810-0_17

173) Treves, A., Wallace, R.B. & White, S. (2009) Participatory planning of interventions to mitigate human–wildlife conflicts. *Conservation Biology*, **23**, UK

174) Tutu, D. 2004. *God has a dream: a vision of hope for our future*. London: Rider

175) van Dooren, C., & Aiking, H. (2016). Defining a nutritionally healthy, environmentally friendly, and culturally acceptable Lowlands Diet. The International Journal of Life Cycle Assessment, 21(5), 688-700.

176) Walker, P. A. (2005). Political ecology: where is the ecology? *Progress in Human Geography, 29(1),* 73–82. https://doi.org/10.1191/0309132505ph530pr

177) Whande, W. (2007). Community-based natural resource management in the southern Africa region: An annotated bibliography and general overview of literature, 1996–2004. Research Report 24. Institute for Poverty, Land and Agrarian Studies, University of the Western Cape.

178) Williams, A. E, Worsley-Tonks, K. E.L. Ezenwa, V. O., 2017 'Drivers and consequences of variation in individual social connectivity' *Animal Behaviour Volume 133*,1-9

179) Wolf E. (1972) Ownership and political ecology. *Anthropological Quarterly 45(3):*201–205

180) Wolmer W (2004) Wildlife management and land reform in southeastern Zimbabwe: a compatible pairing or a contradiction in terms? *Geoforum 35(1):87–98*

181) Wolmer, W. (2003), "Transboundary conservation: the politics of ecological integrity in the Great Limpopo Transfrontier Park", Sustainable Livelihoods in Southern Africa Research Paper 4, Institute of Development Studies, Brighton.

182) Wolmer, W. (2007), From Wilderness Vision to Farm Invasions: Conservation and Development in Zimbabwe's South-East Lowveld, Weaver Press, Harare.

183) Woodroffe, R., Thirgood, S., & Rabinowitz, A. (Eds.) (2005). People and wildlife: Conflict or co-existence? New York: Cambridge University Press.

184) World Bank. (1996). *Mozambique*: *Transfrontier Conservation Areas Pilot and Institutional Strengthening Project*. Project Document. Agriculture and Environment Operations, Africa Region

185) Wright, A, (1972). Valley of Ironwoods, Cape Town, Cape & Transvaal Printers Ltd.

Appendix 1

Bright Masocha Household Survey

My name is Bright Masocha, studying for a PhD in ethnology. I am studying multilateral relations in land use, wildlife conservation and rural livelihoods. May you be generous with your time and information that I will only use for academic purposes?

Household ID: 22

Name of Supervisor	Date Checked
fadzai	22.06.2019.

A. IDENTIFYING INFORMATION

1 Name of Enumerator	Ennie
2.Date of interview	15.04.209
3. Country	Zimbabwe
4. District	Chiredzi
5. Province / Region / State	
6. Ward	15
7.Village	Muhlekwani
10. Household No:	2
11. Name of head of household	Vulani Charles
12. Name of Respondent	Emeli mangena
13. Is respondent HH? *1=Yes 0=No*	No
14. If not, relationship to household head *1=Wife 2=Husband* NB: (Interview should only be carried out with the two adult members of the household i.e. husband or wife or adult children living at home)	Wife.

B. GENERAL HOUSEHOLD INFORMATION

Demographic data		
1. Gender of Household head	Female	*1=Male 0=Female*
2. Age of Household head in years	53 45	
3. Marriage status	2	*1=Single, 2=Monogamously married, 3=Polygamous married, 4=Widowed, 5=Separated/ Divorced, 6=Other (Specify)*
4. If married age of spouse **1**	43	
5. If married to more than one spouse, age of spouse **2**	0 -	
6. Education level of household head	3	*1=no formal education, 2=Adult education 3=some primary education, 4=completed primary education, 5=some vocational training, 6=completed vocational training, 7=some secondary education, 8=completed secondary education, 9=College education 10=University education*
7. Education level of Spouse **1**	3	
8. Education level of Spouse **2**	4 -	
9. Highest level of education attained by any family member	4	
10. Number of males aged 16 and 58 years	2	
11. Number of females aged 16 and 58 years	2	
12. Number of members aged below 16 years	5	
13. Number of members aged 59 and above	-	
14.How many members of this family are living away who regularly send remittances?	-	
15. Household size	9	*All members of a common decision making unit (usually within one residence) that are sharing income and other resources.*
House characteristics/identifiers		
21. Type of household	1	*(1) male headed (monogamous), (2) male headed (polygamous), (3) female headed (husband absent), (4) female headed (widowed), (5) female headed (divorced), (6) female headed (single), (7) male headed (single), (8) male headed (divorced), (9) male headed (widowed) (99) Other (Specify).....*

C. 1. LAND OWNERSHIP

1. Land Holding in Hectares or Acres (Please specify: _____)

Row	Holdings	(a) Homestead land	(b) Main Upland Land	(c) Wetland (if applicable)	(d) Other	(e) Total
1	Owned					
2	Rented from others					
3	Sharecropped in					
4	Borrowed					
5	Rented out					
6	Sharecropped out					
7	Lent out					
8	Under crop cultivation (2007/8)	0.405e	4 hect	-	-	-
9	Under woodlot (2007/8)					
10	Total land under other uses (fallow, pasture, etc) (2007/8)					
11	A1/ A2 or other resettlement					
12	With wildlife or conservation					

1 hectare=2.471acres; 1 acre=0.405 hectares

C 2. Internal Migration

1. How many years have been resident in this village? 38 years _____months/ _____since history
2. Do you consider yourself an immigrant? _____yes NO No
   a. If yes, where did you come from? _____
3. Do people consider you an immigrant _____ yes NO no
   If yes,
   why_____
   _____
4. If yes to (1) and (2) above, what challenges do you face because of this status?
   _____
   _____.
5. In this village do you know anyone with migrant background? _____ yes NO no
   If yes, How many?_____.
   If yes, Do you think they receive a different treatment in their day to day activities.
   _____
   _____.

D (3) Institutional and Organisational Aspects of TFCAs

1. How would you rate the official institutions in your area?

Row	Name	(a) This organisation should get more resources?	(b)This organisation should not be stopped from operating?	(c) This org is visible in your area?	(d)In your opinion this organisation deals with?	(e) have you ever been helped by this organisation?
1	ZimParks	a1	2	2	Wildlife Security	not yet
2	Forestry	3	3	3	Avoid deforestration	yes
3	Safari operators	1	1	1	Hunting	yes
4	BioHub Trust	3	3	3	–	–
5	EMA	3	3	2	–	–
6	CAMPFIRE	1	1	1	Money & projects	yes
7	Forestry	3	3	3	–	–
8	RDC	1	1	1	no idea	yes
9	AREX	1	1	1	Seed and fertilizers	yes
10	Veterinary	1	1	1	facilitate animal health	yes
11	Save Conservancy	3	2	3	–	–
12	Others 1	3	3	3	–	–
13	Others 2	3	3	3	–	–

A, b, c and e): *1=very strongly agree, 2=agree, 3=don't know, 4=don't agree, 5=strongly don't agree d) please write the answer as it is*

How important are the traditional institutions the conservation of nature in your area?

Yes the facilitate on planned Settlement, avoid deforestration and veld fire management.

Should they be given more resources? Yes 1=yes ___0=no

Do you think they should be given more powers in the TFCA management? Yes 1= yes _____0=no

Why? They are local + near to us.

What traditional rules and regulations do you recognise in preserving nature resources in your area?

Avoid unnecessary Cut down of trees.

E. Human-Wildlife Conflicts

E(1) Do think there are some problems associated with wildlife in your area?

Row	Wildlife name	A) How many have you seen in the last one month	b) have encounter a problem with this animal?	c) How many times?	d) state the problem	e) Have the problems being solved? 1=yes 2=no	f) who is dealing with the problem?	g) should be the wildlife be eliminated for farming or crop production 1=Yes, 0=No	h)If you see wild animals what comes to your mind?
1	Elephants	five times	Yes	Five times	Eat destroy	Yes	Safari Operator	NO	Money
2	Lions	–	–	–	–	–	–	Yes	Enermy
3	Leopards	–	–	–	–	–	–	Yes	Enermy
4	Hyenas	–	–	–	–	–	–	Yes	Enemy
5	Buffalos	many times	Yes	Six times	eat crops	NO	Safari operater	NO	meat
6	Crocodiles	Everyday	Yes	Every day	kills goats	NO	Safari operater	NO	Money
7	Eagles	–	–	–	–	–	–	–	–
8	Others	–	–	–	–	–	–	–	–

2. **Diseases**

B) Do you think wildlife are bringing diseases to you or your livestock? 1=yes 2=no Yes

If yes may give a list foot and mouth.

C) How many livestock died due to the mentioned diseases? many

D) How long has the problem been happening? Every year.

Statutory declaration

I hereby affirm in lieu of an oath that I have prepared the present work independently and without using any aids other than those specified. All passages that were taken verbatim or correspondingly from published and unpublished documents are marked as such. The thesis has not yet been submitted in the same or a similar form or in extracts as part of another examination. I confirm that the submitted electronic version corresponds in full to the submitted printed version. (As of March 2017, please refer to the latest version of the examination regulations!)

Cologne, the -date-

10.08.22

signature

BRIGHT MASOCHA

218