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The value of an elephant: conservation politics and its impact on human-elephant relations in the Kunene Region/Namibia

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Preface

Die sozialen und ökologischen Folgen von Naturschutz stellen seit 20 Jahren ein zentrales Thema der Umweltethnologie dar. Heute werden in den Staaten des südlichen Afrika 25 bis 40 Prozent der Staatsfläche in unterschiedlichem Maße unter Schutz gestellt. Neben großflächigen Nationalparks, in denen keine menschliche Nutzung zugelassen ist, werden immer umfassendere Landschaften im Rahmen von gemeinschaftsbasierten Schutzmaßnahmen unter Naturschutz gestellt. Naturschutz mit Beteiligung der lokalen Bevölkerung verfolgt zwei Ziele: zum einen soll Biodiversität geschützt werden, zum anderen sollen die Schutzmaßnahmen zum Wirtschaftswachstum in ländlichen Regionen beitragen. Die Logik dieses Schrittes ist folgender: natürliche Ressourcen, hier insbesondere Wildtiere, aber auch wilde Landschaften sollen unter Schutz gestellt werden, damit Touristen, diese Ressourcen (und dann auch Waren) nutzen; Wildtiere sollen gesehen, fotografiert und erlegt werden, in Wildnis-Landschaften soll auf Campingplätzen übernachtet oder in mondänen Hotels genossen werden (und selbstredend auch übernachtet). Von all dem soll eine vormals marginalisierte ländliche Bevölkerung profitieren, u.a. in dem Nutzungsgebühren gezahlt und Wild im Abschuss unmittelbar gezahlt wird. Der Nordwesten Namibias gehört zu einer der Weltregionen, in denen dieses Naturschutzkonzept umfassend getestet wurde. Elefanten und andere Wildtiere waren dort Ende der 1980er Jahre fast ausgerottet. Durch umfassende Schutzmaßnahmen (aber auch durch eine Reihe guter Regenjahre) vervielfachte sich ihre Zahl rasch. Jennifer Hagemann hat in diesem Kontext eine etwa fünfwöchige Feldarbeit im Rahmen eines ethnologischen Feldforschungspraktikums durchgeführt. Sie hat vor Ort Personen befragt, die im Naturschutz aktiv sind, aber auch an der Nutzung von Wildtieren teilhaben. Sie interviewte auch Außenstehende, die nicht an den Gewinnen beteiligt sind und eher Schäden durch Elefanten verbuchen müssen. Darüber hinaus konnte sie Aktivisten, die in der namibischen Elefantenschutzorganisation EHRA arbeiten, und in der Region ebenfalls aktiv sind, für Interviews gewinnen.

Abstract

In the Kunene Region in nothwestern Namibia, conservation politics have undergone significant changes over the past 100 years and consequently affected the relations between humans and elephants on a local level. Local inhabitants of the Kunene Region have maintained different kinds of relations to elephants from the last decades of the 19th century to the early 21st century. At first, they were hired as assistants to hunters; under colonial administration, they were excluded from using wildlife as a resource and in the late 20th century they became game guards, managing and protecting wildlife themselves under new conservation guidelines. Especially when it comes to internationally high valued species such as elephants, perspectives on conservation measures differ greatly between a variety of stakeholders. This thesis investigates the value of elephants from different perspectives in the international debate about trophy hunting and elephant conservation and its impact on local perceptions of elephants. The present image of elephants in Kunene is ambiguous. On the one hand, locals seem to support the growth of the elephant population in order to gain benefits (e.g. from tourism), on the other hand, they struggle to live side by side with them. Analyses investigating human-elephant conflicts led to effective interventions in the regions most affected. In that way, many conservancies are able to reduce conflicts involving elephants. To assess human-elephant conflicts and mitigation measures, education about elephants' behavior is crucial. Using diverse sources, the local population gained a wide knowledge about elephants, their behaviour and measures to be taken to avoid conflict situations. Therefore, the thesis further aims at giving a broader understanding of the behavioural ecology of elephants as well as local perceptions and reactions towards elephant bahaviour.

Acknowledgements

Throughout my field research and the process of writing this thesis, I have received a great deal of support and assistance from many people.

I would like to thank the Department of Social and Cultural Anthropology of the University of Cologne for offering me the opportunity to research in the Kunene Region. I would like to thank specifically my supervisor, Professor Dr. Michael Bollig, for his ongoing support throughout the project and the writing process. His expertise on the Kunene Region as well as on the topic itself was invaluable.

I also would like to express my gratitude for the Integrated Rural Development and Nature Conservation (IRDNC), especially Eben Tjiho, Cluster Coordinator of the Natural Resource Management team of IRDNC, who supported me during my whole stay in the Kunene Region and who provided important information about wildlife conservation in the Kunene Region.

Furthermore, I would like to thank Rachel Harris, the Managing Director of the Elephant-Human Relations Aid (EHRA), whose expertise gave me a better understanding of the situation of desert dwelling elephants in the Kunene Region as well as of the international debate on trophy hunting. I am also incredibly grateful for receiving support by Hendrick Munembome, the leader of EHRAs Elephant PEACE Project. By sharing his experiences, he provided a valuable insight into local human-elephant relations.

This thesis would not have been possible without the help of the people I met during my fieldwork. I want to thank all the people who shared their knowledge and experiences on living within elephants' home range with me. I am deeply grateful. Without those conversations, the realization of the project would not have been possible. At this point, I would also like to thank Kapezuva for interpreting the conversations which were held in Otjiherero.

And finally, I wish to show my appreciation for Martina Wichmann for editing the text of this thesis.

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List of Acronyms

AGM	Annual General Meetings
IUCN	The International Union for Conservation of Nature
CBNRM	Community-Based Natural Resource Management
CGG	Community Game Guard
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP	Conferences of the Parties
EHRA	Elephant-Human Relations Aid
HWC	Human Wildlife Conflict
IRDNC	Integrated Rural Development and Nature Conservation
MET	Ministry of Environment and Tourism
NACSO	Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organisations
NGO	Non-governmental organisation
NWT	Namibian Wildlife Trust
PAO	Protected Area Outreach
SWAPO	South-West Africa People's Organisation
TEV	Total economic value
WTP	Willingness-to-pay
WWF	World Wide Fund for Nature

1. Introduction

"There is no other way. You know we use cars, they are very dangerous too. Cars are killing us every day but we still manage to drive and survive together. It is the same with elephants, elephants are just like cars."
(Statement given by a resident in Ozondundu conservancy considering the future of living with elephants)

The elephant as a charismatic and iconic species often has a special status in debates about wildlife conservation. The conservation of elephants seems to gain more international attention than conservation efforts for most other wildlife species. There are many reasons why scientific research frequently focuses on this particular species: the elephants' critical population status in many African countries due to poaching, especially in the past but also nowadays as the Great Elephant Census revealed (Chase et al. 2016: 1); their function as an umbrella species, i.e. their impact on the environment and other wildlife living in the same range; or their advanced social behaviour (Twine and Magome 2008: 213). Further, their similarities to humans such as having their own language, their apparent ability to feel emotions (e.g. elephants appear to mourn their dead, Goldenberg and Wittemyer 2020: 127) and their sophisticated social behaviour make the elephant a popular subject in conservation debates. Those anthropomorphic characteristics are often used by animal rights groups to argue for a better protection of elephants (Lambert 2015, Morell 2014). These similarities to humans facilitate efforts in elephant conservation and may even ascribe more importance to elephant conservation than to the conservation of other animals. As Hurn, referring to whales, states: "As a result of these apparent similarities to humans they are accorded a greater degree of respect than many other animals […]" (Hurn 2012: 166f.). Research on human-elephant relations and interactions is embedded in the broader field of *human-animal studies.* Due to the growing interest in human-animal interactions over the last decade, a lot of scholars of various disciplines have started to research different aspects of human-animal relations (Hurn 2012: 5). The field of human-animal studies has not only been advanced by anthropologists but also by scholars from disciplines such as philosophy or cultural geography, supplying data on the multifaceted relations between humans and other-than-human species (Hurn 2012: 1). Those contributions add new insights to the debate and thus create a broader theoretical base for scholars (Hurn 2012: 5). At first, it might be a bit surprising to see anthropologists study human-animal interactions because they usually focus exclusively on human subjects (Hurn 2012: 2). But "as a comparative discipline, anthropology can only operate when there are 'others' against whom one's own ideas and customs […] can be measured and judged" (Hurn 2012: 3). This means that anthropology is traditionally a "study of 'otherness' " (Hurn 2012: 3). Due to the discipline's comparative approach, anthropologists are methodologically well equipped for the study of human-animal relations (Hurn 2012: 6). As a consequence of the reflexive turn within the field of anthropology, animals have become more

than “mere objects to be utilised by human subjects” in anthropological works (Hurn 2012: 1f.). The study of human-animal relations is part of a growing field yielding different terms. Hurn, as an anthropologist, refers to her own work “[...] as ‘anthrozoology’ because anthropologists, by dint of their disciplinary training, prioritize the ‘human’ ” (Hurn 2012: 4). Scholars working in the field of human-animal studies “[…] ‘bring in’ the animal, to consider the interactions under investigation from the perspectives of both the humans and nonhumans concerned” whereas “ ‘animal studies’ seeks to prioritize the perspectives of the animals themselves” (Hurn 2012: 5). New terms and approaches consistently emerge from studies of human-animal interactions, more recently a multispecies approach gained attention in literature regarding human-animal relations (Kirksey and Helmreich 2010: 545).

One reason why many academics dedicate their research to human-animal interactions might be the consequences of anthropogenic activities, which have led to ecological and socioeconomic changes (Hurn 2012: 165). Environmental loss and the extinction of species are issues consistently discussed in the context of conservation. The effects of dwindling ecosystems on human and non-human species make conservation a significant concern in academic studies. Conservation politics do not only affect wildlife populations and their ecosystem but also people living in these ecosystems. As Hurn explains “[...] the anthropogenic activities which threaten other species also have negative impacts on human communities globally”, which makes conservation a “prominent issue” in anthropological studies (Hurn 2012: 165). Conservation politics play an important role in changing attitudes and perceptions regarding different species. Disputes over conservation measures reflect the different attitudes and values of various stakeholders operating with different ideas about how wildlife is best conserved (Bell 1983 in Twine and Magome 2008: 207):

> *“However, there is no general consensus regarding sustainable human-animal-environmental relations. Disparate attitudes towards the fate of the natural world and the importance ascribed to wildlife conservation can result in conflicts between human groups because of the contrasting ways in which animals and other ‘natural’ phenomena are perceived, represented, valued and ‘consumed’. […] Anthropology can play a vital role in helping people understand the ways in which others perceive animals, and how these perceptions determine subsequent interactions.”* (Hurn 2012: 165)

When investigating human-elephant relations, a major distinction is to be made between African elephants and Asian elephants. Regarding Asian elephants, studies of human-elephant relations can refer to wild elephants as well as to captive elephants. In contrast to African elephants, the domestication of Asian elephants is a practice, even though a declining one, which is used for the mitigation of human-elephant conflicts (Shaffer et al. 2019: 5): “Once captured and domesticated, Asian elephants have integrated into human society serving in temples and at community festivities, transporting people and heavy loads for agriculture, warfare, and hunting, and helping to capture other wild elephants” (Shaffer et al. 2019: 5). Ursula Münster (2014)

explores the ambivalent intimacies emerging from collaborations between captive elephants and humans while working together for wildlife conservation in South India. In this context human-animal relations are emerging, which are "[...] not only shaped by individual intimacies but also by danger, risk, and aggression, situated within a region's larger political ecology" (Münster 2014: 1). Research on human-elephant relations with special regard to Namibia, has been conducted e.g. by Moore (2009). Moore's research particularly focuses on the Zambezi region (formerly Caprivi). Drawing attention to human-elephant relations in the Kunene Region is of interest as this region is still inhabited by a rather small number of elephants compared to Zambezi (Thouless et al. 2016: 173) and therefore local perceptions on elephants and their conservation might differ.

This thesis investigates the impact of conservation politics on human-elephant relations in the Kunene Region[1] of northwestern Namibia. The idea for this thesis emerged from controversial debates about elephant conservation, particularly the impact of trophy hunting as a conservation measure on the dynamics of elephant populations. Even though the Community-Based Natural Resource Management (CBNRM), which was implemented in 1996 in Namibia, led to an increase in wildlife numbers, its neoliberal approach is controversially discussed (Moore 2011: 52f.). Neoliberal thinking implies that wildlife can only be conserved if the local community gains a financial benefit from it (Moore 2011: 52). Therefore, CBNRM is based on sustainable utilisation to generate income for local communities (Moore 2011: 53). This facilitates development in rural areas and simultaneously strengthens local support for wildlife conservation (Adams and Hulme 2001: 15). Trophy hunting, as one of the wildlife management strategies, contributes a major portion of local communities' income, but debates about its ethics and sustainability currently put a lot of pressure on trophy hunting in Africa (Angula et al. 2018: 26). The hunting of elephants links local communities in rural areas to global trade networks (Bollig and Olwage 2016: 61) but in international debates about trophy hunting "the voices of local communities have been conspicuously absent" (Angula et al. 2018: 26). Studies like that of Angula et al., which try to include local perceptions of trophy hunting, are suggesting a strong support for hunting among community members and indicate that a trophy hunting ban would "seriously weaken" local support for wildlife conservation (Angula et al. 2018: 26). This assumption strengthens the position of trophy hunting advocates, but it does not reveal how local people actually perceive and value wildlife. Nevertheless, those studies provide an important insight into local perceptions of wildlife conservation.

On the international level, the Namibian government and other advocates of utilisation face a strong lobby, the preservationists, who are arguing that all forms of consumptive use of wildlife

[1] In this thesis also referred to as 'Kunene'.

are opposed to conservation (Moore 2010: 27).[2] The preservationist movement, which advocates for a trophy hunting ban, argues that other sources of income from wildlife are more sustainable for long-term conservation (e.g. game-viewing tourism).[3] The trophy hunting of elephants could be put to an end by a general trophy hunting ban but also by decisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). If CITES bans all ivory trade, Namibia and other southern African countries will no longer be able to profit from elephant trophy hunting. Utilisationists on the other hand, emphasise the costs of living with elephants due to increasing human-wildlife conflicts and, as a result, they argue that people who are living in elephant range need to profit from the presence of elephants (Moore 2010: 22). The debate between utilisationists and preservationists leads to the question how people who are living in elephant range actually perceive and value elephants and how these values are shaped and influenced by conservation politics and the international discourse between different stakeholders. This question is the focus of this thesis and will be approached by investigating the following aspects:

- *How do people who are living in elephant range perceive and value elephants and how are these perceptions and values formed?*
- *How do they experience the growing elephant population and what do they think about trophy hunting as a conservation measure?*
- *What do local people know about the behaviour and social structure of elephants and how is this knowledge used during human-elephant interactions?*
- *How do elephants and humans interact with each other?*

In this thesis data will be used from a fieldwork project conducted in the Kunene Region in 2016. Findings of that project will be integrated in different parts of this thesis. Chapter 2 is going to present the project's objective, study area and methods. I would like to emphasise that the study was conducted using qualitative methods, reflecting individual notions and experiences of inhabitants of that region. As Moore's study provides a valuable insight into human-elephant relations in Zambezi, her research will be used to supplement the findings of the fieldwork in Kunene. Chapter 3 sets the context for the study of human-elephant relations in Kunene by investigating the history of elephant conservation efforts in that region and the role of local people in wildlife management. The past of elephant conservation in Kunene is characterised by commodification and de-commodification due to changing conservation politics, which remained fairly inefficient in the past as either the needs of elephants or local communities were neglected (Bollig and Olwage 2016). Within the framework of CBNRM, local communities are now involved

[2] In order to distinguish between conservationists who support the consumptive utilisation of wildlife and conservationists who refuse any form of consumptive utilisation for conservation, I will refer to the terms Moore uses in her research: utilisationists and preservationists (Moore 2010). I would like to note that both terms cover a wide spectrum of different views on conservation.

[3] Statement of a biologist of an NGO for wildlife conservation during an informal conversation.

in wildlife conservation and are able to profit from managing natural resources in their region. Chapter 3 further illustrates elephant population dynamics in the Kunene Region and conservation politics in Namibia with special regard to CBNRM. A major aim of CBNRM is the linking of conservation and developmental goals in rural areas (Jones and Murphree 2004: 65). In many conservancies hunting tourism provides the largest part of the community's income (NACSO 2016a-d). Chapter 4 investigates the benefits of both trophy hunting and non-consumptive tourism for local communities. Additionally, the debate about trophy hunting will be presented in more detail, with special regard to elephants by introducing preservationist notions and concerns regarding the sustainability of elephant hunting in Kunene. The two opposing notions regarding wildlife conservation presented in Chapter 4 have their roots in different ways of valuing natural resources**.** Both parties emphasise different values that are ascribed to elephants when discussing elephant conservation. As CITES and the implementation of an ivory trade ban have raised this debate to an international level, Chapter 5 takes a look at the valuation processes and its challenges, especially when trying to determine the total economic value of the elephant.[4] After illustrating how elephants are perceived and valued in the international discourse by different stakeholders, I will draw on data collected during the fieldwork to give an insight into local perceptions and values of elephants. Moore has published two articles, which will be used as reference in Chapter 5 of this thesis as they provide a valuable overview of the international discourse of elephant conservation with regard to Namibia. The utilisationists' main argument is that the elephant population has to be controlled because of increasing numbers of conflicts related to elephants (Moore 2010: 22). Personal encounters with elephants have a major impact on local perceptions of the species as a whole. Chapter 6 therefore deals with the impact of human-elephant conflicts on rural livelihoods in Kunene. Those conflicts are important to investigate not only because they influence the attitudes of local residents towards elephants, but also because the negative effects of living with them can support trophy hunting as a conservation measure. Chapter 6 further investigates the importance of local knowledge about elephants and how elephant behaviour is interpreted by local people in order to mitigate human-elephant conflicts. Again, collected data will be used to describe local attitudes and how people react when they encounter elephants. The investigation of every-day experiences people have with elephants and their knowledge about these animals provides a better understanding of how people who are living in elephant range perceive elephants and their conservation.

[4] Due to limitations of space, this thesis will not present the full range of challenges of the economic valuation of natural resources and its criticism. Rather a short overview of distinct aspects, which are important for the context of this thesis, is given. For more detailed explanations see Moore (2011).

2. Fieldwork in the Kunene Region

In 2016 the department of Social and Cultural Anthropology at the University of Cologne offered its students the opportunity to take part in a short-term supervised fieldwork project in Namibia. A group of students conducted their projects over a period of six weeks in the Kunene Region. As one of these students I went into the field in order to conduct research on human-wildlife relations with special regard to elephant related conflicts. I am going to use the results of my project in this thesis to shed light on the question how human-elephant relations in Kunene are shaped. The project's objective was to gain information on local perceptions of elephants and elephant population dynamics in the Kunene Region.

2.1 Methods

In order to collect information for my research questions, I conducted formal and informal as well as group interviews with local people sharing elephant range. The interviews were semistructured. A disadvantage of semi-structured interviews is that the course of the interview can be strongly influenced by the interviewees, which makes the results difficult to compare (Adams 2015). But, as I wanted to investigate individual perceptions on elephants, I chose semistructured interviews to offer interviewees the opportunity to share their opinion on what they think is important considering elephant conservation. I prepared a set of questions, closed- and open-ended, to assist in guiding through the interviews. Those were usually helpful to start conversations, but most of the time the interviews were characterised by follow-up questions in response to statements by the interviewees. The conversations sought to investigate four major aspects: 1. Knowledge about elephants' social, feeding and spatial behaviour, 2. Local perceptions and values of elephants, 3. Perceptions of trophy hunting and its sustainability and 4. Perceptions of growing elephant population with a focus on HWC. Those aspects were investigated to assess the question of what local communities know about elephants, where that knowledge is derived from and which factors have an impact on local people's perceptions of elephants and their conservation. Because of my inability to speak Otjiherero, one of the local languages, most of the interviews with people living in elephants' home range were conducted with the help of an interpreter.

12 interviews were conducted with people living in elephant range. The interviewees were of different ages and social roles. I interviewed four game guards and a rhino ranger, people who are directly involved in wildlife management and provided valuable insights on how elephant populations, habitat, routes and conflicts have changed due to increased conservation efforts.

The other interviewees were from different social contexts (e.g. chief, committee members) and professions (e.g. teacher). Most of the interviewees were men between 30 and 70, but I also got the opportunity to informally talk to a group of women. Furthermore, I conducted some expert interviews. Eben Tjiho, Cluster Coordinator of the Natural Resource Management team of

Integrated Rural Development and Nature Conservation (IRDNC)[5], gave support for the whole duration of my stay, provided helpful information on my topic's issues and invited me to attend a meeting between a conservancy's committee and representatives of a hunting venture that operates a hunting camp in that conservancy. Staff members of the Ministry of Environment and Tourism (MET)[6] and different non-governmental organisations like IRDNC were present at the meeting to mediate between the two groups. Moreover, I contacted the Elephant-Human Relations Aid (EHRA), an NGO which tries to reduce elephant-human conflicts.[7] EHRA's members were very supportive and managed to arrange a meeting with one of the ELEPHANT PEACE project leaders, Hendrick Munembome. Additionally, I visited EHRA's office in Swakopmund, where the NGOs Managing Director, Rachel Harris, provided valuable information on the situation of desert dwelling elephants in Kunene. In the expert interviews I gained insights that enabled me to put the local opinions and experiences into context and to get a better understanding of the international debate on trophy hunting.

2.2 Study Area

The Kunene Region in north-west Namibia contains an area of 115,616 km² (Namibia Statistics Agency 2017: 51) and has borders with the coast in the west, Angola in the north and the Etosha National Park in the east. In 2016, about 97,865 people were living in Kunene, which is 4.2 % of Namibia's total population (Namibia Statistics Agency 2017: 45). This makes Kunene a very sparsely populated region, with 0.8 inhabitants per square kilometre (Namibia Statistics Agency 2017: 51). In 2019, 86 conservancies were registered in Namibia (NACSO 2020). 38 of these conservancies with approximately 65,137 inhabitants were registered in Kunene Region (NACSO 2020). The fieldwork project was based in Opuwo, where no free ranging elephants can be found. In order to conduct interviews with people who are actually living with elephants, I visited four conservancies south of Opuwo: Ozondundu, Omatendeka, Anabeb and Okangundumba (App. I). All mentioned conservancies were registered in 2003 and are largely semi-desert areas with sparse savannah (NACSO 2020a-d). I chose to visit these conservancies for two reasons: First, they all list elephants as one of their major wildlife resources (NACSO 2020a-d) and second, all four conservancies derive income from combined hunting returns i.e. trophy hunting is conducted. To monitor wildlife, annual road-based counts and Event Book monitoring systems are used. The conservancy of Anabeb employs nine community game guards, whereas the other three conservancies employ only four game guards respectively, to monitor wildlife in their areas (NACSO 2020a-d). All four conservancies are located in elephant

[5] IRDNC is a non-governmental organisation, which supports rural communities to manage wildlife and other natural resources. For further information on IRDNC see https://www.irdnc.org.na/ [accessed June 14, 2020]
[6] Recently renamed Ministry of Environment, Forestry and Tourism (MEFT)
[7] EHRA implemented different projects such as the Elephant PEACE (People and Elephants Amicably CoExisting) project, a community-based education program for the people of the southern Kunene and northern Erongo Regions (EHRA 2020b).

range (App. II), i.e. elephants are moving through the conservancies by using migration routes between different feeding areas in different seasons.

In the conservancy of Anabeb, about 1,498 people live in an area of 1,570 km² (NACSO 2020a). In Anabeb the elephant is a common wildlife species, but elephant related conflicts are few (NACSO 2016a). In 2016, a few conflicts related to elephants occurred (approx. 2) but between 2012 and 2015 no such incidents were registered by NACSO (NACSO 2016e). Anabeb generates most of its returns from natural resources through combined tourism (NACSO 2016a), whereas the other three conservancies receive most of their returns from hunting (NACSO 2016b-c).

In Okangundumba approximately 2,132 people inhabit an area of 1,131 km² (NACSO 2020b). The elephant is considered a locally rare species, but conflicts occur on a regular basis (NACSO 2016b). Between 2010 and 2014 elephant related conflicts slightly decreased, but since then incidents have increased again (approx. 44 in 2016) (NACSO 2016e). Livestock attacks and crop damages are the most common types of damage by wildlife and the elephant is listed as the second most troublesome problem animal after the cheetah (NACSO 2016b). In 2015 and 2016 Okagundumba got one elephant on quota for hunting tourism with a potential trophy value of 204,320 N$ in 2015 and 260,500N$ in 2016 (NACSO 2015, NACSO 2016b).

In Omatendeka, an area of 1,619 km² with about 2,541 inhabitants (NACSO 2020c), elephants are considered as rare species (NACSO 2016c). Nevertheless, elephant related conflicts do occur but declined between 2011 and 2014 (NACSO 2016c). Commercial poaching increased in 2010 and more significantly in 2013 (NACSO 2016c), which may be a reason for the decrease of elephant related incidents. The elephant was considered the most troublesome problem animal in 2015 as the number of elephant related incidents increased to approx. 34 (NACSO 2016e). In 2016 the number of incidents registered by NACSO has decreased by more than 50 % compared to the previous year (NACSO 2016c). Omatendeka conservancy was neither in 2015 nor in 2016 issued a quota for elephant hunting (NACSO 2016c).

The conservancy of Ozondundu is inhabited by approximately 394 people spread over an area of 754 km² (NACSO 2020d). The elephant is a locally rare and endangered species in Ozondundu, but in 2015 elephant related conflicts have increased to approx. 28 (NACSO 2016e). The elephant was considered to be the most troublesome problem animal in 2015 and second most troublesome problem animal in 2016 (NACSO 2016d). In 2015 and 2016 Ozondundu received one elephant on quota respectively for trophy hunting. In 2015 the estimated monetary value for an elephant was 204,320 N$, which increased to 260,500 N$ in 2016 (NACSO 2016d).

2.3 Challenges

The fieldwork project was based in Opuwo, which did not belong to any conservancy at that time. Since 2018 Otjindjerese Conservancy has been registered and also includes Opuwo (NACSO 2020e). Accompanied by a fellow student, who did research on conservancy committees, which

also required meeting people of different conservancies, I visited the conservancies previously mentioned. Our first challenge was limited access to means of transport. We relied on two PhD students from the University of Cologne, who were researching in Kunene during the time of our fieldwork projects. They provided great help as they knew the places and arranged our visits to the four conservancies. Due to the limited transport facilities, we were not able to have a flexible time schedule and were also not mobile. As a result our trips to the conservancies were sometimes very short. This leads directly to the second challenge: limitation of time. From the beginning of the project it was clear, that much more time was needed to gain trust and respect of the interviewees. Elephant conservation is not only a highly emotional issue for people who might have suffered from elephant conflicts, but wildlife management in general seems to be dominated by men, which can be difficult for a female researcher. I was aware of this challenge before going into the field as the time frame for the project was set in advance and covered about six weeks. Most interviews were conducted under time pressure. The actual time spent in conservancies was short and sometimes we were not able to conduct separate interviews, i.e. one interviewee was first asked questions by my fellow student and afterwards we had a conversation about elephants. At times this was very exhausting not only for our interpreter but also for the interviewees. So, the project's short time frame proved to be challenging for the realisation of my original plans.

Despite these profound challenges, I decided to include the results that I was able to draw from my analysis of the conducted interviews as they still provide an important – and so far not explicitly gathered – insight into local perceptions of elephants in rural areas. I will refer to the interviewees with an 'X' and the number of the interview (1-15) throughout this thesis (App. III).

The initial focus of the project was on the impact of trophy hunting on the social behaviour of elephants and how the local population perceives this issue. However, the focus of this thesis has shifted in the meantime due to the challenges mentioned above but also due to the information gathered during the interviews. This adaption to the research circumstances and limited interview content related to the original research question was necessary. However, the interviews themselves provided unexpected input that justifies a shift in focus of this thesis.

3. Elephant Hunting and Conservation in the Kunene Region

Local people in the Kunene Region have maintained different kinds of relationships to elephants from the late 19th century to the present day. Early on, local people were hired as assistants to commercial hunters (Bollig and Olwage 2016: 64). Under colonial administration they were excluded from using wildlife as a resource (Bollig and Olwage 2016: 66) and in the late 20th century local people were once again hired to work with wildlife (Jones 2001: 163). They now work for the protection of animals as game guards in conservancies, managing and protecting wildlife under new conservation guidelines, stipulated by the Community-Based Natural Resource Management (CBNRM) (Jones 2001: 163f.). Under these measures, elephant population numbers are beginning to increase as do the discussions about how to conserve elephants best. The following subchapters give a short overview about how elephant numbers developed by commodification and de-commodification due to conservation politics from the late 19th century to the present day and how these changes shape human-elephant relations.

3.1 New Conservation Politics: From Fortress Conservation to CBNRM

Historically the western model of Fortress Conservation influenced sub-Saharan conservation, which excluded local communities from any use of natural resources (Adams and Hulme 2001: 10). Fortress conservation strategies involved the establishment of national parks, nature reserves and other protected areas to keep human impact on the environment as low as possible (Adams and Hulme 2001: 10). In the 1980s conservation politics in Africa were internationally criticised (Hulme and Murphree 2001: 1). International conservation agencies were highly concerned about the decline of African wildlife, particularly elephants, due to poaching (Hulme and Murphree 2001: 1). A new strategy was needed to improve wildlife conservation. Three guidelines were introduced to be considered: Firstly, in contrast to former fortress conservation, local communities should be involved in the management of natural resources (Hulme and Murphree 2001: 1). Secondly, conservation should also reach developmental goals in rural areas and thirdly, according to neoliberal thinking, “markets should play a greater role” in conservation strategies (Hulme and Murphree 2001: 1). Those guidelines lead to different conservation programs with different levels of local empowerment and involvement (Hulme and Murphree 2001: 4). Programs based on the Protected Area Outreach (PAO) approach show only minimal participation of local communities in the management of natural resources (Hulme and Murphree 2001: 4). Both land and natural resources remain state-owned (Barrow and Murphree 2001: 32f.). The main objective of the PAO approach is the “conservation of ecosystems, biodiversity and species”, which is prior to development objectives (Barrow and Murphree 2001: 32f.). This approach has proven to be important for people living close to the border of protected areas as PAO-programs seeks to improve rural livelihoods by benefit-sharing arrangements (Barrow and Murphree 2001: 33). Collaborative management goes one step further. Rights over land and

resources still remain in the possession of the state, but local communities get access to natural resources by negotiated agreements between local resource users and natural resource authorities (Barrow and Murphree 2001: 31f.). Compared with these two approaches to conservation, community-based conservation programs involve the highest participation level of local residents (Hulme and Murphree 2001: 4). Local communities are empowered as the responsibility for natural resources and land is handed over to them (Jones and Weaver 2009: 237). Following this idea, rights over wildlife and tourism are transferred from state to local communities (Jones and Weaver 2009: 224). Community-based conservation closely links conservational and developmental objectives as the approach seeks to enhance development in rural areas by generating benefits from wildlife conservation (Barrow and Murphree 2001: 34).
Those conservation approaches with different levels of local involvement originated from different values ascribed to nature and wildlife. On the one hand, there are programs based on the intrinsic value of nature, focusing on the needs of non-human species (Adams and Hulme 2001: 14). The PAO approach is an example for those conservation strategies, which barely involve the participation of local communities (Hulme and Murphree 2001: 4). On the other hand, there are conservation efforts based on an anthropocentric view, which puts human needs first (Adams and Hulme 2001: 14). Those community-based approaches to conservation include a high participation level of local communities, which are able to improve their livelihoods by gaining benefits from the sustainable management of natural resources (Barrow and Murphree 2001: 34). While the community-based conservation model is more prominent in Southern Africa, it is becoming increasingly popular in Eastern Africa as well, where PAO approaches had been the norm before (Barrow and Murphree 2001: 32).

3.2 Overview of Elephant Hunting in Kunene from the late 19th Century to the 1980s

Elephants in the Kunene Region were one of the prime targets for hunters and poachers during the late 19th and early 20th century (Bollig and Olwage 2016: 66). As market prices for ivory increased in the mid 19th century, a period of large-scale commercial hunting on elephants began (Bollig and Olwage 2016: 63). Even though local communities in the Kaokoveld[8] relied on hunting and gathering for their subsistence, “elephants were rarely exclusively hunted for their meat” as other game was much easier to access (Bollig and Olwage 2016: 63). Nevertheless, they were usually involved in hunting action towards elephants. They functioned as scouts to trace elephant herds or as carriers to transport tusks across Kunene to the Angolan border for the Dorsland Trekkers, who conducted large-scale elephant hunting in the late 19th and early 20th century (Bollig and Olwage 2016: 64). The Dorsland Trekkers, “a predominantly white Afrikaans-speaking community”, settled in Southwest Angola in the late 1880s (Bollig and Olwage 2016: 63). Every year some community members returned to the Kaokoveld for hunting expeditions

[8] Kaokoveld is a part of the Kunene Region in northwestern Namibia.

with large mammals, especially elephants, as their prime targets (Owen-Smith 2010: 367). Large numbers of elephants were killed as the record hunt of 103 elephants shot in a single day shows (Owen-Smith 2010: 367). In his book 'Jagkonings' von Moltke states that over 2000 elephants were killed by one of the most successful hunters and his team during hunting expeditions between 1892 and 1908 (von Moltke 2003 in OwenSmith 2010: 368). Besides the Dorsland Trekkers, other hunters contributed to a sharp decline in elephant numbers: Individual white hunters, e.g. the German hunter Steinhart, as well as hunters from local communities such as the Thwa and Tjimba (Bollig and Olwage 2016: 64). As a reaction to the diminishing elephant population German colonial administration enhanced police patrols and in 1907 the Kaokoveld became part of the Game Reserve No. 2. (Bollig and Olwage 2016: 66). From that time a clear distinction between legal and illegal hunting was possible (Bollig and Olwage 2016: 66). Control and restrictions were strengthened under South African colonial administration in 1917 (Bollig and Olwage 2016: 66). Formerly seen as a highly profitable product, elephants had now become "a non marketable public property" (Bollig and Olwage 2016: 66). Nevertheless, hunting was still permitted but only "under certain rules", with proper weapons (Adams and Hulme 2001:11) and usually carried out by researchers and administrative staff (Bollig and Olwage 2016: 66).

From the 1920s to the 1950s many researchers visited the Kaokoveld for expeditions to collect information and "specimens for scientific purposes" (Bollig and Olwage 2016: 67). As all use of game was regulated by the state and hunting was generally prohibited, hunters needed permits for scientific purposes and for food supplies (Bollig and Olwage 2016: 67). One of these scientific researchers was G.C. Shortridge, who was granted high quotas for his expeditions to the Kaokoveld (Bollig and Olwage 2016: 67). In 1934 he published the two volumes of "The mammals of South West Africa", in which he presents the results of his expeditions to South West Africa over a ten-year period (Shortridge 1934: vii). He collected data on the distribution, migration, habits and appearance of different mammals in South West Africa. In a chapter dealing with the African elephant, he estimated the number between 600 and 1000, adding the comment of Oorlog, "a Herero leader" (Owen-Smith 2010: 368), who estimated not more than 500 elephants for the whole Kaokoveld (Shortridge 1934: 358). Even though quotas for wildlife were still given to researchers and administrative staff, the restrictions in hunting led to increasing wildlife numbers. The elephant population began to recover and in 1951 the first game wardens estimated between 1200-1500 elephants roaming in the Kaokoveld (Owen-Smith 2010: 369).

Whereas human impact on wildlife in the Kaokoveld was kept at low levels between 1920 and 1950, the 1950s up to the 1970s were characterised by "anti-conservationists agendas" which focused on the need of economic development in rural areas (Bollig and Olwage 2016: 67). As wildlife numbers increased, human-wildlife conflicts started to occur more regularly and were "seen as a hindrance to the economic development" (Bollig and Olwage 2016: 67). After "vermin traps" had already been handed out to locals, in the 1960s poison and guns were given to those

who wanted to protect themselves against the damage done by game (Bollig and Olwage 2016: 68). At the Odendaal Commission meeting in Opuwo in 1963 locals complained about the "elephant plague" which led to a discussion about loosening the rules on elephant shooting, ending with a clear statement against elephant conservation (Bollig and Olwage 2016: 68).[9]

In the 1970s heavy poaching led to a massive decline in wildlife numbers in the Kunene Region (Jones 2001: 162). For different reasons such as high ivory prices, increased arming of local residents to protect themselves against South West African People's Organisation (SWAPO) rebels and the loss of the majority of cattle due to a drought in 1980/81, the motivation for poaching increased and became a threat to many wildlife species (Bollig and Olwage 2016: 69). After elephant numbers in the north-west had increased to about 1200 in 1970, at the beginning of the 1980s less than 300 elephants remained in the region (Owen-Smith 2010: 371). In response to declining wildlife numbers due to poaching, the Namibian Wildlife Trust (NWT) decided to appoint Garth Owen-Smith, "a former agricultural extension officer and government game ranger" as their own conservator in the Kunene Region in 1982 (Jones 2001: 162). In "open discussions with local residents about […] declining wildlife numbers", Owen-Smith realised that headmen and other locals were concerned about wildlife population, yet did not have the authority to intervene as wildlife was considered government property (Jones 2001: 163). Together with Chris Eyre, a government conservator, Owen-Smith worked on a concept for integrating local communities into wildlife conservation by the appointment of community game guards (CGGs) (Jones 2001: 162). CGGs were chosen by headmen and paid for by the Endangered Wildlife Trust (Jones 2001: 162f.). The end of the drought and the work of CGGs, who reported on wildlife sightings and poaching incidents, contributed to the recovery of wildlife populations (Jones 2001: 163). Differences in recovery rates of species were notable: the estimated number of oryx increased from about 400 in 1982 to 7500 in 1990, whereas the elephant population recovered much slower from 250 in 1982 to about 384 in 1992 (Durbin et al. 1997 in Jones 2001: 163). Increasing wildlife numbers were seen as a success for the new community game guard system, which demonstrated "community commitment to wildlife conservation" (Jones 2001: 163). Together with the anthropologist Margaret Jacobsohn, Owen-Smith founded the NGO "Integrated Rural Development and Nature Conservation" (IRDNC) to support the game guard system across the country (Jones 2001: 164). Nowadays game guards play a crucial role in the management of natural resources and wildlife in conservancies all over Namibia.

[9] "'Ons stem saam die olifante moet doodgeskiet word' ('We agree that the elephants have to be shot dead')" (Bollig and Olwage 2016: 68).

3.3 Community-Based Natural Resource Management in Namibia

During colonial administration conservation politics were characterised by either overuse of wildlife, leading to a massive decline and even the disappearance of wildlife species in some areas, or non-use of wildlife, worsening living conditions of rural communities. The emphasis of economic development in rural areas combined with heavy poaching during the 1980s led to the dwindling of Namibia's wildlife population. Local communities were suffering from the drought in 1980/81 “with losses of cattle up to 95%” (Bollig and Olwage 2016: 69). A solution was needed for both the recovery of wildlife and the improvement of rural livelihoods. Garth Owen-Smith and Margaret Jacobsohn approached the problem by implementing a pilot project in Puros in 1987 in order to support local residents with benefits from tourism (OwenSmith 2010: 498). Agreements with two safari operators were reached, that paid the community levies for the clients they took to Puros (Jones 2001: 164). In addition to the income through levies, Himba women were selling hand-woven baskets and other traditional crafts to the tourists (Owen-Smith 2010: 499). Generating income from tourism helped to improve the local attitude towards wildlife, especially elephants (Owen-Smith 2010: 499). During a meeting with the Puros community in 1987, the community was upset when they were informed about the sighting of a bull elephant at Puros spring (Owen-Smith 2010: 498). Because the community grew crops, the local population feared that elephants might destroy their gardens, which led to a negative attitude towards the animals (Owen-Smith 2010: 498). But as the project provided a regular income from tourism, the community soon lost interest in the gardens (Owen-Smith 2010: 499). A more tolerant attitude towards elephants evolved among community members as most tourists came to see big game (Owen-Smith 2010: 499). The Puros project turned “wild animals into a valuable resource again” (Owen-Smith 2010: 499), from which the local community could benefit. As Namibia gained independence in 1990, IRDNC could actively “play a role in changing national conservation legislation” (IRDNC n.d.).

In 1996 CBNRM, a conservation program that originated from a small project “initiated by a non-governmental organization (NGO) and local traditional leaders”, was implemented in Namibia (Jones and Weaver 2009: 223). One key element of CBNRM is sustainable utilisation of wildlife (Jones and Murphree 2004: 64). If local people see wildlife as a source of income, they might see conservation as an alternative to other land use options (Jones and Murphree 2004: 65). Furthermore, their attitude towards wildlife and conservation might improve with the result that they are more willing to conserve it and use it sustainably (Jones and Murphree 2004: 73). In this conservation model communities and wildlife seem to be interdependent and when applied properly both parties can benefit. In order to manage wildlife within the framework of CBNRM, local communities in Namibia must form conservancies (Jones and Weaver 2009: 224). Before applying for a conservancy status at the Namibian Ministry of Environment and Tourism (MET), a community needs to meet the conditions stipulated in the Nature Conservation Amendment Act 5, 1996 (Bollig and Menestrey Schwieger 2014: 169). The geographic boundaries of the area

that a community wishes to declare as conservancy have to be defined as well as the membership (Republic of Namibia 1996: 4). Furthermore, the community needs to elect a committee, which acts as representative for the community (Republic of Namibia 1996: 4). This committee provides for the sustainable management and utilisation of game and therefore must be able to distribute benefits derived from wildlife management (consumptive and non-consumptive use) equitably to the members of the conservancy (Republic of Namibia 1996: 4). The committee is elected in different intervals, which range between yearly and three-yearly elections (Bollig and Menestrey Schwieger 2014: 170). In meetings, the committee and conservancy members are dividing the conservancy area into zones for different purposes: core-conservation zones, in which any kind of use is prohibited, zones for touristic use, zones for commercial hunting and zones for subsistence herding and/or farming (Bollig and Menestrey Schwieger 2014: 170f.). Once the area has been gazetted as a conservancy, rights over wildlife are devolved to the community and contracts with private operators and tourism enterprises can be negotiated (Bollig and Menestrey Schwieger 2014: 171).

4. The Commodification of the Elephant

CBNRM as part of Namibia's conservation politics is based on sustainable utilisation and thus on the commodification of natural resources. Central to this approach is the use of markets “to reconfigure and re-regulate people's interaction with the environment through commodification” (Moore 2011: 52). Those markets are acting as the mechanism “through which natural resources are valued and exchanged as commodities” (Moore 2011: 51). According to neoliberal thinking, people can profit from natural resources once they are commodified and thus have a motivation to support conservation (Moore 2011). In this conservation model “Wildlife must ‘pay its way’ ” (Adams and Hulme 2001: 17). In her article “The neoliberal elephant: Exploring the impacts of the trade ban in ivory on the commodification and neoliberalisation of elephants” Moore describes the opposing notions on commodifying elephants between the utilisationists on the one side and preservationists on the other side (Moore 2011). Whereas utilisationists highlight the importance of consumptive use values (e.g. ivory, meat), which can generate monetary value e.g. through trophy hunting, preservationists prefer intrinsic informed approaches to conservation, that are not harming any wildlife e.g. game-viewing tourism (Moore 2010). These two opposing notions as well as the preservationists’ concerns about trophy hunting are going to be the subject of the following subchapters.

4.1 Sustainable Utilisation

Trophy hunting is an important source of income for many conservancies as it generates cash income for the conservancies as well as in-kind benefits such as meat for the community (MET/NACSO 2018: 67). Trophy hunting is a way to generate benefits from the consumptive use of elephants. According to the Nature Conservation Ordinance consumptive use refers to “the utilisation of individual game by its permanent removal, or removal of parts of it, from or within an area” (Republic of Namibia n.d.: 7). Besides trophy hunting, the consumptive use of game includes own-use meat harvesting and shoot-and-sell meat harvesting (MET/NACSO 2018: 76f.). Game hunting for the own-use of the conservancy provides its members with in-kind benefits and at the same time it strengthens local support for conservation (MET/NACSO 2018: 76f.). Shoot-and-sell quotas are given to commercial outlets such as butcheries, but the income from these activities remains relatively small for conservancies (MET/NACSO 2018: 77).

Comparing all forms of consumptive use of wildlife, trophy hunting gains most international attention and is often criticised as a conservation measure (MET/NACSO 2018: 72). Trophy hunting refers to game hunting as a kind of sports activity with the aim to gain a trophy, which is usually the shot animal or a part of it e.g. tusks (McNamara et al. 2015: 2). Namibia as a hunting destination is of special interest for big game hunters because it allows the hunting of the Big Five (Buffalo, Elephant, Leopard, Lion and Rhino) (McNamara et al. 2015: 6). The trophy hunting season in Namibia starts on the 1st of February and ends on the 30th of November (NAPHA

2019). The Nature Conservation Ordinance determines regulations and restrictions for any hunting in Namibia.[10] These include e.g. the prohibition of using automatic firearms or hunting at night with the aid of artificial light (Republic of Namibia n.d.: 37f.). Trophy hunting is only allowed with a valid permit granted by the MET (Republic of Namibia n.d.: 34). Any violation of the regulations is seen as an offence and can have legal consequences such as fines and/or imprisonment (Republic of Namibia n.d.: 25). The extent of the penalty differs depending on the category of the illegally killed animal. The Ordinance classifies wild animals into four categories: 1. specially protected game (Schedule 3) 2. protected game (Schedule 4), 3. huntable game (Schedule 5) and 4. huntable game birds (Schedule 6) (Republic of Namibia n.d.: 75-77). The degree of penalty for shooting an animal without a permit differs not only between the categories but also within them. Elephants and rhinos have a special status within the category of specially protected game. The illegal killing of an elephant or a rhino can lead to significantly higher fines and/or longer imprisonments, compared to the illegal killing of an animal from another species within the same category.[11]

4.1.1 Quotas and Game Counts

To ensure the sustainable use of wildlife, all forms of consumptive use are regulated by quotas of the MET (MET/NACSO 2018: 77). The quota is the number of game which is allowed to be sold or shot by the conservancy. The quotas are based on game counts and other wildlife monitoring methods conducted in the concerned regions (MET/NACSO 2018: 37). In annual quota meetings the conservancy members and the committee discuss quotas for trophy hunting and other forms of consumptive use (MET/NACSO 2018: 50). Once they have agreed on hunting quotas, the conservancy requests those quotas from the MET, which reviews the requests before issuing the quotas to the conservancy (MET/NACSO 2018: 50). Game counts are an important tool for the calculation of quotas in order to avoid the over-use of certain species. There are different forms of counting wildlife that can be combined to get a more accurate result (MET/NACSO 2018: 42). Most conservancies conduct routine game censuses of which the largest is the North-West Game Count, a road based game count conducted by conservancy members, staff of MET and conservation NGOs (MET/NACSO 2018: 42). In addition, conservancy game guards use event books, in which they record wildlife sightings and human-wildlife conflicts as well as game that is hunted from quota (Bollig and Menestrey Schwieger 2014: 171). These books help to track game numbers in a more accurate way and are combined with aerial census data provided by the MET (MET/NACSO 2018: 42). An average of 70% of quotas is intended for own-use hunting and shoot-and-sell operations by butchers, 10% of quotas are used by traditional authorities and 20% are issued for trophy hunting (Bollig and Olwage

[10] See Republic of Namibia n.d.: Annotated Statuses - Nature Conservation Ordinance 4 of 1975.

[11] The illegal killing of elephant or rhino entails fines up to R200 000 and/or imprisonment up to 20 years. The illegal killing of any other species in the category of specially protected game entails fines not exceeding R20 000 and/or imprisonment not exceeding 5 years (Republic of Namibia n.d.: 25).

2016: 71). “Hunting companies specify contractually how many animals out of the trophy quota they will definitely use and pay for (Bollig and Olwage 2016: 71)”. Usually, a big part of trophy hunting quotas issued to conservancies remains unused (Bollig and Olwage 2016: 72). Charts provided by NACSO (Namibian Association of Community Based Natural Resource Management Support Organisations) list the quota for each wildlife species and for what purpose those quotas have been used. The example of Omatendeka conservancy below (Figure 1) shows that in 2017 only a very small number of quotas were actually met.

Species	Quota 2017			Animals actually used in 2017						Potential Trophy Value N$	Potential Other use Value N$
	Total	Trophy	Other Use	Trophy	Own Use & Premium	Shoot & Sell	Capture & Sale	Problem Animal	Total Use		
Baboon	5	5								600	
Cheetah	2	2								14,000	
Eland*	2	2								19,900	
Elephant*	0.167	0.167		1					1	273,600	
Gemsbok	18	12	6		4				4	4,200	2,592
Giraffe	3	1	2		1				2	10,300	13,440
B-f Impala	1	1								10,400	
Jackal	5	5								500	
Klipspringer	2	2								5,200	
Kudu*	10	5	5		3				4	9,400	38,750
Leopard	1	1								32,900	
Ostrich	10	5	5		1				1	2,000	720
Springbok	75	20	55		35				37	2,700	624
Steenbok	2	2								3,500	
Mtn Zebra	30	10	20		12				13	5,600	3,984

Potential value estimates (N$) for species are based on:

- **Potential trophy value** - the average trophy value for that species in the conservancy landscape
  - trophy values vary depending on trophy quality, international recognition of the hunting operator and the hunting area
- **Potential other use value** - the average meat value for common species
  - the average live sale value of each high value species (indicated with an *)[high value species are never used for meat]

Figure 1: Wildlife quotas and use in Omatendeka conservancy 2017 (Source: NACSO 2017: 2017 Annual Conservancy Audit Report - Omatendeka Status Summary & Natural Resource Report)

This shows that the commodification of wildlife has its limitations (Bollig and Olwage 2016: 73). Quotas for high value species such as elephant or lion are usually fully used while the high quotas for other species like Springbok or Gemsbok are only used to a small extent (Bollig and Olwage 2016: 72). As shown in figure 1 sometimes not even half of the quota for a species is depleted and in some cases the quota is not used at all (e.g. jackal, baboon). The neoliberal approach to conservation in the context of CBNRM emphasises the importance of markets for local development and thus justifies the commodification of wildlife (Moore 2011: 52). But data of current quota hunting shows that there are “apparently massive hindrances to the full commodification of game” as “some game on the quota does not have any market at all” (Bollig and Olwage 2016: 72). Sullivan criticises the commodification of wildlife arguing that those species are less likely to be represented in conservation agendas:

> "*Those 'resources' that are less amenable to commodification – less able to generate value-added in the form of monetary profit – usually are less visible in environment and development initiatives, including CBNRM. CBNRM thus tends to focus on a spectacular and internationally valued animal wildlife over and above the multiple plants and invertebrates that constitute the dynamic fabric of engagement with the landscape for those who dwell there." (Sullivan 2006: 115)*

4.1.2 Benefits of Consumptive and Non-Consumptive Use

The returns from wildlife management differ significantly from conservancy to conservancy. In 2017 the total cash and in-kind benefits generated in conservancies added up to about N$ 132 million (MET/NACSO 2018: 25). Conservancies have to use this income first to cover their own expenses. Once their own management costs have been covered, such as salaries for staff, allowances for committee members, travel costs, office administration, training activities and vehicle running costs, remaining cash benefits can be distributed to conservancy members or spent on social projects in the conservancy (MET/NACSO 2018: 57). On average, 20% of the income is shared with the community (MET/NACSO 2018: 12). How benefits are distributed is determined at Annual General Meetings (AGM) by the conservancy committee (MET/NACSO 2018: 12). Some conservancies pay cash benefits to households, others pay for community services e.g. providing diesel for water pumps (MET/NACSO 2018: 75). While meat distribution is a transparent process, conservancy members have less information on how cash is distributed and cannot monitor this process easily (Bollig and Menestrey Schwieger 2014: 172). Joint-venture tourism and consumptive wildlife use generate the largest income for conservancies and their members (MET/NACSO 2018: 72). The overall returns from both sectors are relatively similar, but in 2016 and 2017, returns from tourism saw a more significant increase compared to those from consumptive wildlife use (Figure 2).

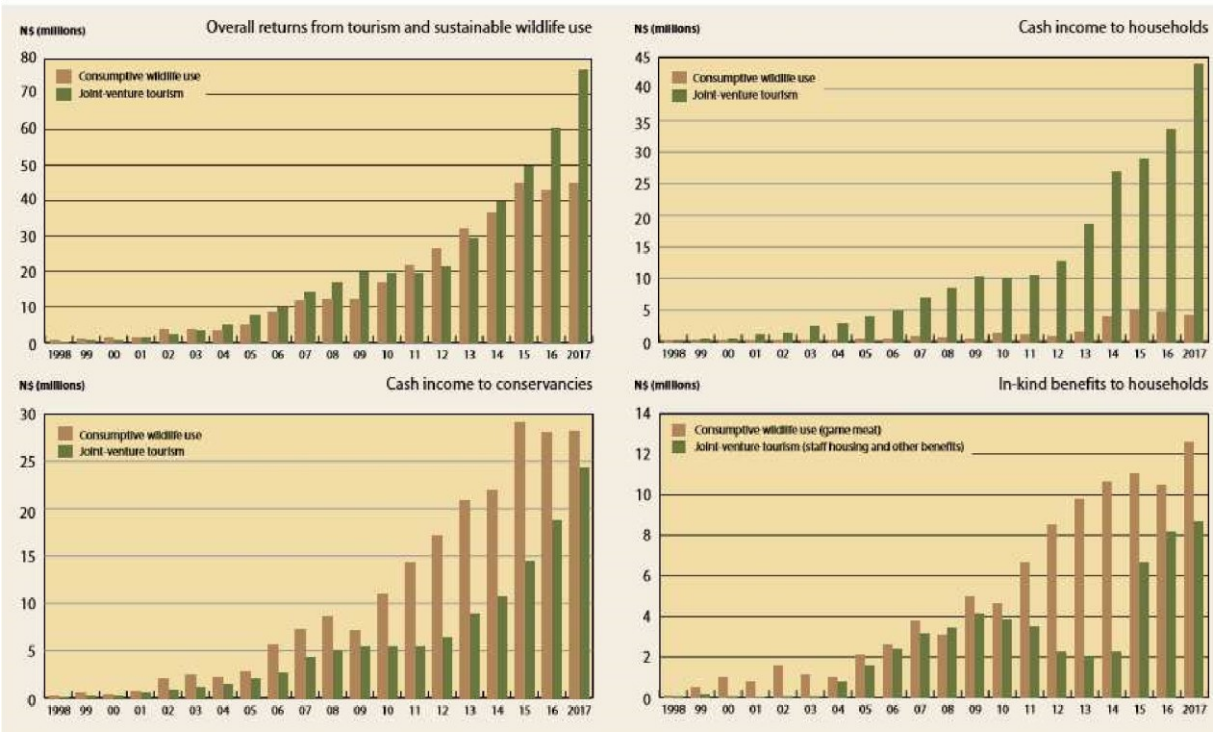

Figure 2: Income from consumptive wildlife and joint venture tourism for conservancies (Source: MET/NACSO 2018: 72)

Joint-venture tourism has provided by far the greatest cash income to households. The most significant benefit for local residents is the creation of jobs (MET/NACSO 2018: 72). According to agreements with conservancies, operators must employ and train local staff (MET/NACSO 2018: 19), e.g. as tour guides or lodge staff (MET/NACSO 2018: 63). In contrast to joint-venture tourism, consumptive wildlife use, esp. trophy hunting, has returned "more cash directly to conservancies and provided more in-kind benefits" (MET/NACSO 2018: 67). The direct income to conservancies is important because it is not only used for running costs and salaries but also for local development e.g. by financing social projects (MET/NACSO 2018: 16).

Even though hunting is often criticised as a conservation measure, it provides a crucial part of the income for many conservancies. For some conservancies it is the main source of income and without hunting they would not be able to cover their costs (MET/NACSO 2018: 73). In 2016 Ozondundu conservancy gained approximately a total of N$ 127,400 in returns, of which 100% were generated from combined hunting (NACSO 2016d). In Okangundumba 75% of the approximate total returns in 2016 were generated by hunting activities and 25% by "other returns" (NACSO 2016b). Nevertheless, the income remained small and the costs exceeded the benefits (NACSO 2016b). Other conservancies, such as Anabeb put a stronger focus on tourism than on hunting. 96% of Anabeb's approximate total returns in 2016 (N$ 7,530,110) were generated by combined tourism and only 3% by hunting (1% was generated through "other returns") (NACSO 2016a). In Omatendeka the income through hunting and tourism is balanced as tourism made up about 44% and hunting 47% of the approximate total returns in 2016 (9% were generated

through “other returns”) (NACSO 2016c). According to MET/NACSO, 21 out of 84 conservancies do not generate any income at all (2018: 67). This might be due to a lack of wildlife or high-value game for hunting or the absence of spectacular landscapes for tourism in the area (MET/NACSO 2018: 67).

It is difficult to determine how much a single species like the elephant contributes to the cash income generated through game-viewing tourism. One attempt to calculate a monetary value for this is to sum up the expenses of tourists (hotel, guided tours etc.). Concerning trophy hunting, the monetary value cashed in by a single species is easy to observe. Trophy hunting generates a significant income for most conservancies in the Kunene Region as can be seen in an analysis of the information on conservancy income provided by NACSO (Figure 2). Especially newly found conservancies greatly benefit from trophy hunting as it generates income much faster than tourism (Naidoo et al. 2016: 632).

Generating income through the management of wildlife seems to be the most attractive incentive for local people to engage in conservation and thus diversify their income sources. But it should be noted that there are also other driving forces for local communities to form a conservancy (Sullivan 2002; Bollig 2016). For a long period of time, land and game management had been in the hands of the state, excluding local people from any benefits derived from natural resources. When a conservancy is officially registered by the MET, management rights over land and wildlife are devolved to the community (Jones and Weaver 2009: 224). Although the legal contract clearly states that no ownership but rather management rights are devolved to the local level, local communities nevertheless perceive those rights as having at least some kind of ownership (Bollig 2016: 780). Sullivan argues that at present legislation, forming conservancies is the only option for local people to “[…] gain any apparent security to land” which explains the rapid expansion of those management units (Sullivan 2002: 166). Bollig and Menestrey Schwieger support this argument as the size of more recently gazetted communities is usually much smaller with less members but also with less game to generate benefits from (Bollig and Menestrey Schwieger 2014: 169). Especially the distinct boundaries and membership seem to be important for local communities as “[…] it was argued that such boundaries could enable a community in future to refuse outsiders seeking to access grazing land in their territory” (Bollig 2016: 780).

Although most reactions have been positive, CBNRM still has to cope with several challenges regarding e.g. benefit sharing and human-wildlife conflicts (MET/NACSO 2018). Despite the positive effects, there are also negative perceptions of the new conservation politics. People who benefit from CBNRM e.g. through employment in tourism, tend to support the community-based conservation program (Jones and Weaver 2009: 234). Those who suffer more damages by increasing wildlife numbers without any benefits in return have a more negative attitude towards CBNRM (Jones and Weaver 2009: 234) and thus to wildlife in general. Nevertheless, CBNRM has led to a change in human-animal relations. As communities are now allowed to manage

wildlife on their own (within the political framework of CBNRM), they have a responsibility for maintaining a healthy wildlife population. The employment of game guards shows that attitudes and relations to wildlife have changed and that wildlife has become a valuable resource worthy of protection. Without a healthy wildlife population, quotas cannot be granted and income through tourism (consumptive and non-consumptive) may regress.

4.2 The Preservationist's Point of View: The Problem with Elephants

CBNRM and trophy hunting as a part of it can be seen as a success regarding both the conservation of wildlife and the improvement of livelihoods in rural areas. However, preservationists cannot come to terms with the paradox concept of hunting to protect. Also, the public opinion in many countries esp. in the Global North show that a lot of people struggle with the concept of trophy hunting itself (McNamara et al. 2015: 6). In 2015 the shooting of the famous lion Cecil by a trophy hunter in Zimbabwe hit the headlines and caused international outrage, raising ethical issues in debates about trophy hunting (McNamara et al. 2015: 1). Similar discussions were held regarding the impact of hunting on Botswana's elephant population (Pinnock 2019). Elephant hunts are frequently discussed in media. When a tusker, "an elephant genetically predisposed to being extra big, with extralarge tusks", was shot in Zimbabwe as a trophy, conservation actors and scientists were concerned about the genetic loss and the consequences for the social structure of the remaining elephant herds (Bale 2015). When it comes to elephant hunting, the focus is not only set on ethical issues but also on ecological and economic impacts. A deeper look has to be taken at elephant biology and social behaviour to understand why many conservationists have concerns about the sustainability of elephant hunting as a conservation strategy. In Namibia those discussions also include a debate about desert elephants.[12]

4.2.1 Threats to the African Elephant

In 1996 the African elephant was categorised as 'endangered' by the Red List of IUCN but its status was changed to 'vulnerable' in 2004 and 2008 with a current increasing population trend (Blanc 2008). Even though the elephant population has increased on a national level, there are still concerns regarding the stability of elephant numbers especially on local levels (X15). Kunene's elephant population is rather small compared to other regions like Zambezi. This has

[12] There are at least two different subspecies of the African elephant: the Savanna elephant (Loxodonta africana africana) and the Forest elephant (Loxodonta cyclotis) (Blanc, J. 2008:1). But the Kunene Region is inhabited by a population of African savanna elephants who have adapted to desert environment. There is a discussion about whether those desert-dwelling elephants can be classified as a separate subspecies or not. Although studies suggest that female desert elephants tend to stay close to their home range (Leggett et al. 2011), bulls are moving long distances between savannah and desert. Thus, there is evidence for genetic exchange which is why the status of a separate subspecies cannot be ascribed to desert-dwelling elephants. Nevertheless, they have distinct features in physical appearance and behaviour to adapt to arid areas e.g. they need lower food intake than Savannah elephants do and have wider feet due to their walking longer distances (compared to other savannah elephants) (DEC 2020). Additionally, Leggett et al. 2011 observed differences in behavioural patterns and social structure. For more information see: www.desertelephantconservation.org [accessed June 25, 2020].

to be taken into account when discussing the sustainability of consumptive utilisation[13]. Some preservationists argue that the consumptive use of elephants cannot be managed in a sustainable way in Kunene due to the small size of the population and other threatening factors (X15).

The survival of elephants is threatened in many African countries due to increasing habitat loss and the fragmentation of habitat (STE 2020). Farms, which are established in the rangelands of elephants, are prone to crop-raiding elephants (EHRA PEACE Project, 2019: 17). This can negatively impact the elephant as well as the farmers, as both can get hurt or even killed during the conflicts (EHRA PEACE Project, 2019: 17). Due to expanding human encroachment, elephants are facing more competition for resources not only with local communities but also with expanding livestock grazing in their range (EHRA PEACE Project 2019: 17). Especially for long distance migrating animals, which also have a high food and water intake, a shrinking habitat can be a challenge for their survival. Expanding human settlements, roads and other infrastructures are not only the main reason for shrinking elephant home ranges but also obstacles in the way of migration routes hindering elephants in accessing their feeding and water resources (STE 2020). Furthermore, the fragmentation of habitats can have a negative effect on elephant population dynamics as it separates groups and thus leads to a decrease in breeding opportunities and genetic diversity (STE 2020).

The increasing habitat loss due to expanding human encroachment in elephant home ranges can easily lead to human-elephant conflicts (EHRA PEACE Project 2019: 17). Elephants are under high pressure to find water and food, especially when rainfalls are poor and resources limited. Although elephants in general and desert elephants in particular are able to cope with arid conditions, they were forced to search for water in villages due to the sinking water table combined with a long drought between 2013 and 2017 (Schnegg 2018). The effects of climate change might make the competition for resources between humans and elephants more dire, which could lead to an increased number in human-elephant conflicts. Additionally, the changing climate might also affect elephant breeding behaviour and mortality (Advani 2014).[14]

In 2016 the final report of the Great Elephant Census (GES), a pan-African survey of savannah elephants between 2014-2015, revealed that the savannah elephant population declined by 30% between 2007 and 2014 (GES n.d.). During the survey, over 93% of savannah elephant populations in 18 countries were counted (Chase et al. 2016: 1). Namibia refused to take part in the Great Elephant Census but conducted own large-scale surveys in 2015 (Chase et al. 2016: 16). The Great Elephant Census showed a decline in savannah elephant population in many

[13] When investigating the sustainability of trophy hunting, it should be considered that trophy hunting poses different levels of threat to elephant populations according to different regions as elephant numbers differ significantly from region to region

[14] A study of Foley et al. 2014 investigates the increasing calf mortality in African elephant populations during periods of droughts.

countries.[15] Illegal ivory trade is suggested to be “the major driver of recent population trends in savannah elephants” (Chase et al. 2016: 17). According to MET/NACSO, there has been an increase in poaching incidents regarding elephants in the north-east, which “is being contained due to concentrated efforts from community game guards, MET rangers and the police” (MET/NACSO 2018: 38). However, poaching remains a problem as high ivory prices and a high demand for ivory, especially in the East, keep the illegal ivory trade alive (STE 2020). “The MET has identified wildlife crime [illegal killing for profit] as an existential threat to Namibia’s iconic species of black rhino, and a significant threat to the elephant population” (MET/NACSO 2018: 38), which is counteracted by increasing efforts in anti-poaching activities.

4.2.2 The Social Structure of Elephants and the Impact of Hunting

Elephants with bigger tusks, i.e. older elephants, are often the preferred target for hunters (Kern 2019). Those older individuals play crucial roles in elephants’ societies (Kern 2019). In recent discussions about elephant hunting, scientists and conservationists express their concerns about the negative impact on social behaviour, reproduction and movement patterns when older elephants are removed. Studies suggest that elephants avoid areas, which are known for higher hunting activities (Selier et al. 2014; Goldberg et al. 2018). This could negatively impact game-viewing tourism (Selier et al. 2014: 130). According to Goldenberg et al. elephant herds alter their movement patterns “in response to illegal killing and the avoidance of higher risk areas” (Goldenberg et al. 2018: 5). Particularly the removal of mature elephants influences the movement of younger ones. Younger families appear to “be more inclined to expand their range and move into new areas” due to “age selective hunting” (Goldenberg et al. 2018: 6). Similar behaviour was also observed for bulls by Selier et al. (2014), who investigated effects of hunting on the population dynamics and movements of elephants in Southern Africa. Bulls do not completely avoid areas that are known for greater hunting activities, however, fewer bulls enter those areas (Selier et al. 2014: 130).

The loss of a matriarch (oldest cow and leader of a herd) can crucially impact the social behaviour and structure of a herd (Kern 2019). Female African elephants usually maintain strictly matrilineal societies and complex social networks with the family unit as core unit (Leggett et al. 2011: 21). A family group is usually led by the oldest female, the matriarch, and consists of her sisters, daughters and their young (Leggett et al. 2011: 21). Related family groups are called “bond groups”- or “kinship groups” and those who share the same seasonal range are referred to as “clans” (Leggett et al. 2011: 21). The matriarch has the longest memory and can therefore determine migration routes to feeding areas and water sources (DEC 2020). Matriarchs have a “[...] vast accumulation of social and ecological knowledge including knowledge of their

[15] A country with a very steep decline in elephant numbers is Angola, which has borders with the Kunene Region: “According to the Monitoring the Illegal Killing of Elephants program, southern Africa has experienced less poaching than any other part of Africa (CITES, 2014). Angola, however, is an exception, with extremely high carcass ratios and large numbers of fresh carcasses suggesting high levels of ongoing poaching” (Chase et al 2016: 18).

surroundings, such as the availability of food and water in periods of drought, safe migratory routes, and predatory threats" (Kern 2019). Thus, the matriarch is essential for the well-being of the herd and its survival. Goldenberg et al. (2016) examined how the removal of important matriarchs impacts social structures in elephant herds. The study indicates that elephants have developed mechanisms of network resilience to a certain extent (Goldenberg et al. 2016: 75). When a matriarch is removed from the herd, usually her daughters adopt the social network roles of their mother (Goldenberg et al. 2016: 77). Fusions of herds occurred in cases where most adult elephants were removed so that daughters couldn't maintain the social organisation (Goldenberg et al. 2016: 78). A study by Leggett et al. (2011) about social dynamics of desert-dwelling elephants shows similar findings. As the population of desert-dwelling elephants is quite small, poaching has had a big influence on social dynamics (Leggett et al. 2011: 20). Leggett et al. suggest that associations between family units in the desert-dwelling elephant population involve only "loose affiliations lacking strong social bonds" (2011: 20). Desert-dwelling elephant family groups are smaller in size compared to savannah elephants and can include unrelated females as well (Leggett et al. 2011: 27). Family groups very rarely associate to form bond groups and if they do, there is no evidence that those groups are dominated by a matriarch (Leggett et al. 2011: 26). This social structure is not unique to desert dwelling elephants:

> *"The matrilineal social structure in this subpopulation is consistent with reports from other poached and culled elephant populations in Africa. Collectively, the results of these studies are inconsistent with the classical model of elephant social structure – stable, strictly matrilineal societies – especially in cases where poaching and culling has occurred, even if transpired decades previously."* (Leggett et al. 2011: 20)

Some preservationists also have doubts about the sustainability of trophy hunting due to the slow breeding rate of elephants: "Trophy hunting [of elephants] is like indirect poaching. It is not sustainable; sustainable is when you let them reproduce again" (X13). Female elephants usually give birth to their first offspring at the age of 12-14 after 22 months of gestation (EHRA PEACE Project 2019: 11). Their breeding intervals can differ between 3 and 9 years (X13; Howard 2017). Male elephants need much more time until they reach breeding age. At the age of 25, they usually come into musth, a period in which they have a higher level of testosterone (EHRA PEACE Project 2019: 23). Male elephants have regular musth cycles every year for about 3 months (EHRA PEACE Project 2019: 23). While the musth cycle starts around the age of 25, it doesn't mean the elephant is allowed to mate and reproduce. "Within a healthy population, males are only allowed to reproduce at 35+ years, due to a dominance hierarchy that is strictly enforced" (EHRA PEACE Project 2019: 24). As hunters specifically target older bulls the breeding opportunities decrease. In EHRA's 2018 annual research report on desert elephants, the main concern was the low number of breeding age bulls, which has a negative impact on reproduction rates and increases the risk of inbreeding (Ramey et al. 2019: 5). Bulls also face another threat:

When in musth, male elephants tend to show a more aggressive behaviour as their testosterone level can be 60 times higher than normally (EHRA PEACE Project 2019: 23). When crossing communities in search for a cow to mate with, bulls can cause a lot of damage. It is more likely that a community calls the MET in order to categorise this particular elephant as a problem animal, which will then be shot. Removing older bulls does not only lead to decreased reproduction opportunities. The behaviour of younger bulls can be affected as well. Male elephants leave the family groups at puberty and often form loose bachelor herds or attach themselves to an older bull (DEC 2020). When older bulls are killed, the tendencies of younger males to show a more aggressive behaviour increase (Slotow et al. 2000: 425). Old elephants have a wealth of experience and knowledge that they can pass on to the younger generations. When these elephants die, the opportunity to learn from them dies with them:

> *"Old and experienced individuals are crucial. [...] They are so much more than 'a breeder' - by the time these animals reach this size [talking of the big tusker who was shot in Zimbabwe], they have been parts of social networks for five or six decades and have accumulated social and ecological experience that younger animals learn from."* (Statement of Vicki Fishlock, a Resident Scientist at the Amboseli Elephant Research Project, in Bale 2015)

4.2.3 Counting and Identifying Elephants

> *"It is technically very difficult to count the widely scattered elephant population in the Kunene Region, which includes the 'desert elephants' in the dry, western extremity of the range and there has been controversy about the numbers in this area."*
> (Thouless et al. 2016: 171)

When the first elephant bulls were put on quota in 2008, there was a lot of criticism from preservationists like EHRA (Bollig and Olwage 2016: 73). Their main argument against trophy hunting is that elephant numbers in Kunene are too low for a sustainable form of hunting (X15). Elephant numbers in Kunene are a controversial issue when it comes to discussions about trophy hunting quotas. On the one hand, some preservationists argue that the actual number is much lower than what is reported (X15). On the other hand, hunting ventures want more elephants on quota in order to sell them to clients, reporting that some areas in Kunene are "full of elephants" (statement of hunting operator during a meeting). In accordance with hunting ventures, most local communities also want more quotas for elephants as they regularly suffer from financial losses due to elephant damages. Even though the actual number of elephants is low in Kunene, local people's perceptions may differ. Especially when living close to elephant migration routes, people encounter elephants on a regular basis without knowing that it might be the same herd.

Therefore, it is difficult for local residents to tell how many elephants are actually living in their region.[16]

During interviews with staff members of different conservation NGOs, it became clear that one concern regarding elephant hunting is the lack of reliable numbers. Many conservationists view quota hunting of elephants in Kunene as unsustainable as there are just too few elephants and no exact and reliable numbers on which a quota could be based. As shown in the previous subchapters, elephants have a slow reproduction rate and small elephant herds are less resilient against threats, which means that they may not be able to keep up their social networks when important members are killed. Therefore, it's crucial to have reliable numbers when quotas are set. However, counting a small number of elephants in a big area like Kunene is a challenging task and the wide elephant home ranges combined with the long-distance movements make it even more difficult to get an accurate number (IUCN 2016: 171). Furthermore, factors such as climate change, droughts and poaching are threatening the elephant population. It is, however, hard to predict to what extent this impacts the elephant numbers.

Game guards play an important role in monitoring elephant population and movement on a local level. This work is used as an additional source for other monitoring methods to get a more reliable number of elephants in a region. One of the biggest challenges that game guards face is identifying herds in order to avoid double counting (X13). EHRA is aware of the fact that it is essential to train game guards in how to identify elephants “in order to manage the population and conflict situations successfully” (EHRA PEACE Project 2019: 21). EHRA initiated the ELEPHANT PEACE Project, which offers educational training for game guards and local communities. They are trained to identify a herd by finding the matriarch so that they are able to recognise her when encountering elephants in the future (X13). It might sound simple, but Hendrick Munembome, the leader of the PEACE Project, noted, that when it comes to the social structure of elephant herds, there are many misinterpretations (X13). Due to the inability to differentiate between female and male elephants, most people mistake the oldest cow for the bull (X13). My interviews confirmed this statement. As I asked questions about the social setup of elephant herds, I became aware of the fact that most people can only tell how they themselves allot roles to different members of a herd. Almost all interviewees share the same opinion on the herd structure of elephants: A group of elephants is led by a bull. “The bull is always the headman. […] He is protecting the group and gives orders” (X9). Even though I interviewed staff trained for wildlife conservation (game guards, rhino ranger), only one game guard (X5) took the opposite view that herds are led by females, which is confirmed by biological data (Leggett et al. 2011). According to Munembome, local people misinterpret the social structure and sexes because the differentiation between female and male elephants is difficult. Most people identify

[16] When interviewees were asked to guess a number of elephants in their region, the answer was rather vague (“many”).

the leader of a herd by the size of its body, teeth and by testicles (X9). The matriarch is usually the oldest elephant of the group and thus appears bigger in size than the other group members. It also has bigger tusks compared to the rest of the herd, that consists of younger females and younger males. This difference can easily be misinterpreted. According to Munembome, local people mistake the skin between the legs of older cows for testicles (X13). In the end, most people identify the biggest elephant with the largest tusks as head of the group, which is considered a bull because its physical appearance differs from other group members.

Munembome further emphasises that additionally to the training in differentiating between cows and bulls, local people and especially game guards need to be trained in how to estimate the age of elephants in their region. This is crucial as e.g. an overestimation of breeding age bulls might lead to misinterpretations of elephant population dynamics and thus to wrong conclusions regarding elephant numbers (X13).

Another important part of the training is to share knowledge about elephant behaviour and social structures on the local level and thereby change negative attitudes towards elephants (X13). This might be important, particularly for game guards, as there have been concerns in the past by some conservation actors about game guards who were not taking their responsibility seriously. Apparently, there were incidents with game guards who just invented numbers for elephants in their patrolling area. By doing so, they overestimated the number on purpose to get more elephants on quota. Even though this might be an exception, such incidents can negatively impact the perception of community-based conservation programs by national and international agencies as they give reason to doubt that local communities put enough effort into the management and conservation of wildlife. Projects like the ELEPHANT PEACE project can help to raise awareness among local people and support the important work of game guards. Munembome calls for a proper management and better understanding of the behaviour of elephants by local people (X13). This is crucial for the protection of both, as a better understanding prevents human-elephant conflicts and can lead to changes in local attitudes towards elephants: “It's a goal of my training. Most of the people don't understand the elephant. What they believe is not exactly what elephants are. After my training, their attitudes towards elephants changed completely because they learned the truth” (X13). [17]

[17] According to Munembome, a part of the training is driving with trainees to elephant herds to show them how elephants behave and react (X13).

5. The Value of Elephants

The different preferences for elephant conservation presented in the previous chapters are a result of different values, which are ascribed to elephants by different stakeholders. Investigating local perceptions of elephants may be of interest in the context of market based conservation approaches, as the value ascribed to elephants is crucially determined by international agents and may differ from the value ascribed on a local level (Moore 2010). The following subchapters present how different conservation actors value elephants and what conflicts arise from the economic valuation of elephants in the course of the international debate about the ivory trade ban.

5.1 Preservationists and Utilisationists in the International Discourse

As Matinca states, the list of actors when it comes to elephant conservation can be “exhaustive” (Matinca 2018: 17). This thesis distinguishes between advocates of utilisation and preservation and is based on the assumption that NGOs as conservation actors strongly influence how the elephant is perceived internationally but particularly in the Global North, whereas Namibia's conservation politics reflect the utilisationist value orientation. Advocates of preservation, such as animal rights activists, NGOs involved in conservation and individuals who perceive any form of consumptive use as a threat to the survival of elephants, form a strong opposing lobby in the international discourse about elephant conservation (Moore 2010: 27). Especially in the Global North, NGOs play an important role in shaping individual perceptions of elephants and opinions on their conservation (Moore 2011: 52).[18] They have created the image of a vulnerable species worthy of protection. Therefore, owning ivory has now become “socially unacceptable” (Moore 2011: 52). By spreading the image of the elephant as a charismatic species, media plays a “powerful role in shaping public opinion” (Twine and Magome 2008: 215). Through media even people who have never seen an elephant in the wild are able to interact with elephants and adopt a positive attitude towards them (Twine and Magome 2008: 215).[19] After the huge media outrage, which followed the killing of Cecil the Lion in 2015, many airlines imposed a ban on the transport of trophies (McNamara et al. 2015: 4). This reflects the predominantly biocentric value orientation of the Global North and can be seen as an example of the media's impact on society.

People who are not living in elephant range generally hold predominantly positive views of elephants. Their attitudes are formed by pictures of elephants presented in the media or by game-viewing safaris as tourists. As a flagship species, elephants play an important role for tourism. The positive interactions between elephants and game-viewing tourists “[...] generate

[18] NGOs do also play an important role on the national level, influencing local people’s perceptions of elephants, campaigning for the preservation of elephants (e.g. EHRA for Namibia or Elephants Without Borders for Botswana).

[19] Matinca raises the question about how NGOs' agendas impact media outlets and how this influences the public opinion. This will not be discussed here any further. Rather, this thesis is based on the assumption that media strongly reflects opinions held by NGOs as also stated by Matinca (Matinca 2018: 18).

public support and goodwill for elephants and conservation in general" (Twine and Magome 2008: 212), resulting in the preference for preservation approaches when it comes to elephant conservation. But the perceptions held by people who are not living in elephant range often don't take the costs of living with elephants into account (Blignaut et al. 2008: 450). Utilisationists, however, use the cost of human wildlife conflict (HWC) as an argument to support trophy hunting as a conservation measure. Tourists who participate in trophy hunting base their value of an elephant on its consumptive utilisation. Therefore, trophy hunters, hunting companies as well as other advocates of utilisation[20] support sustainable utilisation.[21] International debates about elephant conservation reflect the conflicting value orientations held by various conservation actors.

Operating on an international level, CITES provides an important framework for wildlife conservation in which the debates between utilisationists and preservationists are set. In 1989 CITES implemented the ivory trade ban as a reaction to the international concern regarding a decline in elephant numbers in Africa (Moore 2010: 29). The African elephant is a good example for the complexity of CITES regulations (Matinca 2018: 14). Because elephant populations of African countries are listed in different CITES appendices they can be managed in different ways. The three CITES appendices, in which species are listed based on "the degree of protection they need", are important for CITES to regulate the international trade in specimens of wild animals and plants and to ensure sustainable utilisation (CITES n.d. c). The African elephant is listed in Appendix I, which contains species threatened with extinction and therefore trade is prohibited (CITES n.d. c). At the 10th meeting of the Conference of Parties (CoP)[22] in 1997, elephant populations in Namibia, Botswana and Zimbabwe were uplisted to Appendix II due to the recovery of their elephant populations (CITES 1997: 151).[23] Species which are listed in Appendix II are not necessarily threatened with extinction, but the trade needs to be controlled and restricted as unsustainable utilisation might threaten the survival of the species (CITES n.d. c). The uplisting of Namibia's elephant population allows a regulated trade e.g. the international trade of hunting trophies for non-commercial purposes (CITES 1997: 151). Furthermore, Namibia received permission to sell their ivory stockpiles in 1999 and 2008 (Moore 2011: 53). Appendix

[20] e.g. ivory trading States, national NGOs like IRDNC, but also international NGOs. WWF is an example of an international NGO that officially supports trophy hunting as a conservation measure but only under strict management (WWF 2020).

[21] While talking about the presence of preservationist opinions in media, it also has to be acknowledged that tourists participating in trophy hunting mainly come from Europe and North America (McNamara et al. 2015: 7).

[22] "CITES is an international agreement to which states and regional economic integration organizations adhere voluntarily. States that have agreed to be bound by the Convention ('joined' CITES) are known as Parties. Although CITES is legally binding on the Parties – in other words they have to implement the Convention – it does not take the place of national laws. Rather, it provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level" (CITES n.d. a).

[23] In 2000, the South African elephant population was included in Appendix II as well (Thouless et al.: 139).

III “contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade” (CITES n.d. c).[24]

The ongoing debate about lifting the ivory trade ban at CoP meetings is driven by different conservation actors and their value orientations. Whereas preservationists advocate for ceasing all trade in ivory by downlisting the African elephant to Appendix I, utilisationists support sustainable utilisation as a conservation measure, having an “interest in keeping the African elephant on Appendix II” (Matinca 2018: 17). Namibia's conservation politics are based on an anthropocentric value orientation as it supports the “[…] sustainable utilisation of elephants as a valuable consumptive resource” (Twine and Magome 2008: 210). Therefore, Namibia has a keen interest in lifting the restrictions on its ivory trade. This is illustrated by Namibia’s CITES proposals, in which they frequently request the loosening of restrictions on the ivory trade e.g. to be “[…] permitted to trade in an annual quota of sustainably harvested raw ivory” (Moore 2011: 53).

On the international level the preservationist movement is strong and can potentially influence national conservation politics (Moore 2011: 55).[25] Matinca observed that national conservation actors such as IRDNC already prepare for a downlisting of the elephant to CITES Appendix I by trying to find alternative income sources which could replace benefits through trophy hunting and thus mitigate the financial losses in case trophy hunting comes to an end (Matinca 2018: 41). Even though the elephant population in Namibia doesn't fit the biological criteria for being threatened with extinction (Matinca 2018: 18), preservationists are able to impact CITES decisions. As Matinca states: “With the influence of international actors, the possible downlisting of the Appendix II elephant population draws a lot of fear in Namibia” (Matinca 2018: 62).

5.2 The Ivory Trade Ban and the Total Economic Value

The opposing perspectives on the commodification of the elephant and its sustainability are rooted in the wider debate about the complexities of valuing natural resources in economic terms. The elephant must be valued as a commodity to be exchanged on markets so that it can pay for its own conservation (Moore 2011: 52). This presumes that nature has an economic value that can be expressed in terms of money on markets. But “unlike other commodities, the value of nature is not reflected, represented or quantified through the price system” (Vardakoulias 2013: 1), which poses a challenge for its valuation. “Traditional cost–benefit analysis (CBA) focuses mainly on strict economic returns. If the financial benefits of an action outweigh its costs, then

[24] Every two to three years, the Conference of the Parties meets and discusses about the proposals, submitted by different Parties e.g. for transferring species from one Appendix to another one (CITES n.d. b). Proposals on a new listing of species are put to the vote and must be accepted by a 2/3 majority of the Parties, which are present at the meeting (Matinca 2018: 10). Besides the “delegations representing CITES Parties” also other conservation actors can attend the meeting but without having a right to vote e.g. NGOs involved in conservation or trade (CITES n.d. b).

[25] E.g. by withholding funds or by campaigning to change Namibia's CITES Appendix II listing to Appendix I (Moore 2011: 55f.)

CBA considers it efficient, no matter what its knock-on environmental impacts or 'externalities' are" (Vardakoulias 2013: 2). In order to include values of natural resources which are not clearly expressed in markets (non-use values) as well, environmental economists use the concept of the total economic value (TEV) (Vardakoulias 2013: 2). "The economic valuation of ecosystem goods and services is an attempt to mitigate the impact of either the absence of markets or the wrong signals markets send by estimating the value of natural capital in terms of what these resources contribute to society" (Blignaut et al. 2008: 447). In theory, "the calculation of the TEV will identify the full range of opportunities associated with any resource" and turn it into monetary value (Moore 2011: 53).

From a utilisationist perspective, the ivory trade ban prevents the elephant to be valued for its ivory and thus devalues the elephant, which poses a threat to its conservation as the elephant is not able to pay its way (Moore 2011: 52). Utilisationists thus put the emphasis on the value of ivory and the direct consumptive use value of elephants, which cannot be realised in monetary terms due to CITES restrictions. By arguing that the TEV of elephants can be calculated once the ivory trade ban is lifted, utilisationists neglect other challenges associated with valuing natural resources such as e.g. methodological and philosophical issues, which cannot be solved by simply lifting the trade ban (Moore 2011: 58).

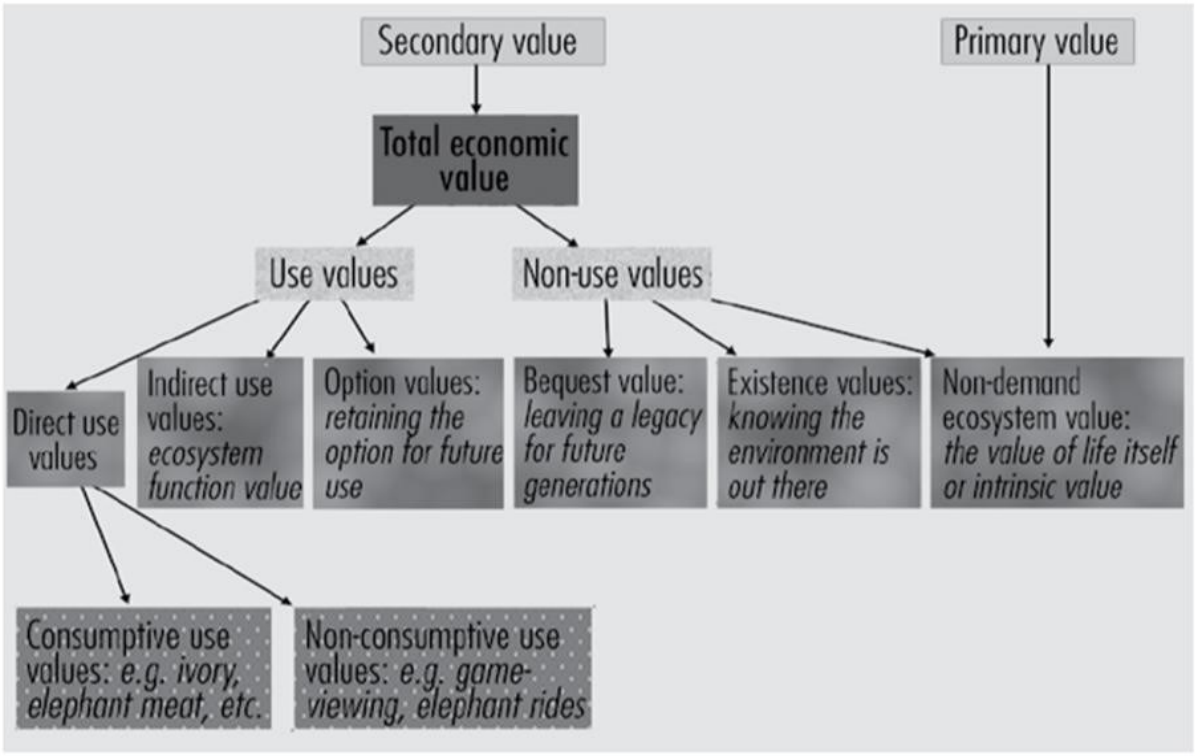

Figure 3: The total economic value (source: adapted from Turner et al. 1994 in Blignaut et al. 2008: 448)

As can be seen in Figure 3, the total economic value consists not only of use values but also of non-use values. Use values refer to 1. direct use values which can be further divided into consumptive (e.g. ivory, trophy, meat) and non-consumptive use values (e.g. game-viewing tourism), 2. indirect use values (e.g. ecological function) and 3. option values. The option value

expresses the preference for not using the resource today "[...] to retain the option for any possible future use" (Blignaut et al. 2008: 449). Non-use values are categorised into bequest and existence values. The existence value is "based on the concept of the environment [or an individual species] being there" (Blignaut et al. 2008: 450). The value of elephants for cultural or religious purposes can be seen as a part of their existence value (Moore 2011: 54). Often bequest values are treated like existence values due to methodological issues when trying to measure them (Blignaut et al. 2008: 450). Bequest values refer to "an individual's willingness-to-pay to ensure that an environment resource is preserved for the benefit of his/her descendants" (Blignaut et al. 2008: 449). While option values can turn into direct use values for the current generation, bequest values remain non-use values for the current generation but can turn into direct use values for their descendants in the future (Blignaut et al. 2008: 449).

The TEV for an elephant cannot be calculated by summing up all these values (Blignaut et al. 2008: 448). Looking at figure 3, we can see that environmental evaluation is complex and linked to methodological challenges. Some use values of an elephant are clearly expressed in the market (Blignaut et al. 2008: 470) e.g. consumptive use values can be measured by analysing the value of the trophy and expenditures of trophy hunters during their stay (Barnes 2003 in Moore 2011: 54). On the other hand, this calculation does not include the value of the hunt itself, i.e. the experience of the hunt is not captured in the consumptive use value (Barnes 2003 in Moore 2011: 54). Non-consumptive use values derived from game-viewing tourism can also be measured by analysing travel expenses. However, it is difficult to determine how much the elephant contributes to that income. Even though elephants are a high status species which attracts a lot of tourists, methodologically it is difficult to allocate the monetary value derived from non-consumptive tourism to a single species.

It is even more difficult to pinpoint a value to non-use values, as there is no market (Moore 2011). In order to measure non-use values, hypothetical markets have to be used, turning the elephant into a proxy commodity (Moore 2011: 55). The application of hypothetical markets to measure non-use values is met with criticism (Moore 2011: 53). One methodological attempt to capture non-use values is to analyse if people are willing to pay for the conservation of an environmental good or service – this is referred to as willingness-to-pay (WTP) (Vardakoulias 2013: 2). The WTP can be assessed with surveys involving questionnaires (Vardakoulias 2013: 3). One problem linked to this method, that has been criticised, is that it often remains unclear if people really respond honestly to the questions or if they would actually act differently in reality (Hansjürgens et al. 2012: 46). Another method to analyse the WTP is the investigation of donations to organisations which fund elephant conservation programmes (Moore 2011: 53).[26]

[26] Blignaut and Wit investigate different surveys on the WTP for elephants on an international level. Often the results suggest that much income could be generated by the WTP, but mechanisms need to be found to "internalise this expressed willingness-to-pay to advance elephant conservation" (Blignaut et al. 2008: 472).

One of the main problems when trying to determine non-use values is, that they are socially constructed and that there are no universal values for many resources (Moore 2011: 54). Furthermore, “Non-use values are driven by perceptions and heavily influenced by specific contexts, which can change over time and in response to events” (Blignaut et al. 2008: 448). As an example, a farmer might value the presence of elephants less after a crop-raiding incident, which leads to a decline in the elephant’s existence value. It further depends on the individual’s perspective on how elephants are valued. The costs of living with elephants might not be reflected at all in the value a game-viewing tourist derives from watching elephants (Blignaut et al. 2008: 450). As the basis for calculating the TEV is formed by societal values (App. IV) (Twine and Magome 2008: 208), the absence of universal values is a problem inherent to all valuation of environmental goods and services. This is one way how “[…] natural resources elude complete commodification” (Moore 2011: 54).

Criticism from the preservationist position mainly applies to the commodification and its inherent economic valuation of natural resources. As the calculation of the TEV shows, there are methodological as well as philosophical challenges, which have led to ethical debates. However, the preservationist movement commodifies elephants as well, as they create a certain image of the elephant to be used in the media that allows them to generate a lot of money e.g. in form of donations for elephant conservation (Moore 2011: 57).

5.3 Local Values and Perceptions in Kunene

In their proposals to CITES about loosening the restrictions on ivory trade, Namibia and other southern African countries emphasise the financial costs of HWC and the importance of local people benefitting from conservation:

> *“Increasing elephant (and human) populations result in escalated human wildlife conflict and the costs of living with elephants and other wildlife cannot be allowed to exceed their benefits or important elephant habitat will be lost together with landscape connectivity.”* (CoP18 Prop.11: 3)

Besides the argument that restrictions in ivory trade ban lead to a loss of income that could be re-invested in elephant conservation (Moore 2011: 53), it is assumed that people living with elephants won't support elephant conservation if they don't derive financial benefits from it (Moore 2010: 23). The following subchapters give an insight into local perceptions of elephants and the values residents of the Kunene Region derive from elephant presence by drawing on data collected during my fieldwork. This is no attempt to cover the full range of local values ascribed to elephants but rather a collection of individual opinions and attitudes.

5.3.1 Perceiving Elephants as an Economic Asset

"Wildlife is like our cattle."
(Statement of a resident in Otjize)

One of the objectives of my fieldwork was to find out how the commodification of the elephants due to neoliberal approaches to conservation influences local perceptions and attitudes towards elephants and elephant conservation in rural areas. According to the interviews conducted in Kunene, local people value elephants in many different ways. However, they strongly emphasise the economic value which is made accessible through CBNRM by trophy hunting. The following statements were answers to the question whether people like elephants or not:

> *"I like elephants because the community gets meat from the trophy hunters. Through trophy hunting also income is generated for the conservancy. With the money game guards and management meetings are paid." (X3)*
>
> *"I like elephants because we get money for the conservancy. Money is used for repairs, schools, and food for children. More elephants should be shot but the government won't give more." (X4)*
>
> *"I like elephants. […] they bring money to the conservancy. The money goes to community by paying staff, game guards and the construction of bore holes." (X5)*
>
> *"I like elephants very much because they bring money. One elephant is worth 200,000ND. We, the game guards are paid from that money, everything that the elephant damage will be paid by that money." (X6)*
>
> *"You get money from elephants when they are sold. Community gets meat, Conservancy gets the money." (X7)*

In all replies, money was considered an important factor. The statements refer to the consumptive use value of elephants by selling quotas to trophy hunters. Local people perceive elephants as an economic asset particularly because of the high trophy value elephants can generate. The community itself profits indirectly from the monetary value and directly as the meat is handed out. One interviewee expressed his hope that someday money generated through trophy hunting will also be handed out to the community (X9).[27]

The strong focus on the economic value of elephants shows the impact of Namibia's conservation politics on the local value of elephants. As the interviewees state, the conservancies are established to generate income from wildlife. When a game guard was asked what conservation generally means to him, he responded: "We are protecting animals for the profit of the communities. Conservation is for the community, for the humans" (X9). This statement reflects the state's utilisation approach and supports the argument that people need

[27] Some conservancies already pay cashouts to households.

to profit from wildlife economically in order to support conservation. Local support is seen as the key for successful conservation (Matinca 2018: 32), which indicates that without any economic benefit, local communities would not support conservation and therefore conservation would not be possible. This raises the question “whether the economic benefit of the existence of elephants reduces the social understanding that conservation happens for the sake of the elephant” (Matinca 2018: 39).

The majority of respondents think that trophy hunting has a positive impact on people’s livelihoods. In all conservancies, where interviews were conducted, except for Anabeb, people wished for a higher quota for elephants. This was to be expected as the conservancy income of Omatendeka, Ozondundu and Okagundumba strongly relies on hunting. Furthermore, in Okagundumba the costs exceeded the benefits (NACSO 2016b). This indicates that particularly in conservancies without lodges (or few lodges) the financial benefits derived from trophy hunting are very important to community members. In Anabeb, a conservancy that also generates high income through non-consumptive tourism, the perceptions of trophy hunting slightly differed. In addition to the economic benefit, interviewees from Anabeb (X11, X12) emphasised the importance of sustainability for the concept of trophy hunting: “The concept of conserving wildlife becomes bad if someone shoots without any permission but also if shooting too many with permission” (X12).

5.3.2 Other Values Associated with Elephants

In addition to the economic value, further values were ascribed to elephants (Table 1). Only one interviewee did not associate any value with elephants and wished all elephants to be removed (X8).

Value	**Reference**	**Reasons for valuing elephants**
Economic	Consumptive	Benefits through trophy hunting: money for the conservancy, meat for community
	Non-consumptive	Benefits through game-viewing tourism
Aesthetic	Physical appearance	Looks beautiful
Ecological	Impact on environment	Clearing pathways
Bequest	Future generations	Conserving for future generations
Cultural values (Traditional knowledge)	Medical function	Elephant dung
	Symbolic function	Elephants representing strength and health
	Omitandu	Praise songs about elephants
Intrinsic value	Ethical questions	Value of life itself

Table 1: Values local people in Kunene associate with elephants

Interviews in Kunene suggest that local people value elephants for their physical appearance as “they are good looking animals” (X5). During a conversation with a group of women in Ozondundu, the economic value of elephants was not mentioned at all. Instead, when asked if they like elephants, the women told that they are fascinated by the physical appearance of elephants and enjoy watching them (X2). Most interviewees described the elephant as good-looking or beautiful animal (e.g. X2, X5, X6, X9). To some extent the value derived from viewing elephants is linked to the motivation to preserve elephants for future generations (bequest value) as interviewees stated that they want their children and grandchildren to see the elephants. Furthermore, the interviews indicate that elephants are valued for their ecological functions. Elephants are known for being ecological engineers, that play an important role in shaping habitats by clearing pathways, “[…] making room for smaller species to co-exist” (Gichohi 2018). A statement, given in Anabeb, reflects the ecological value of elephants for local communities: “If you remove all elephants, there would be only bush and people couldn't walk” (X12). The interviewee recognised the importance of elephants for local people’s mobility, as clearing the bush helps people to walk from one place to another.

The intrinsic value, the value of life itself, was considered when talking about the removal of elephants in Anabeb. According to an interviewee, people have no right to remove the elephants because elephants inhabited the area first (X12). This reason goes along with Moore's observation in Zambezi region where some people did not want elephants to be removed as they “[…] had occupied the land before them, or at the time of their forefathers” (Moore 2010: 25). Even though people in Kunene generally hoped for a higher elephant quota for trophy hunters to compensate elephant-related damages, most people did not wish for the total removal of elephants due to other values derived from them.

In Anabeb the interviewees further ascribed symbolic meaning to elephants. When asked “does the elephant has a special meaning?” two interviewees referred to two important functions of elephants in their tradition: 1. medical function of elephant dung, and 2. symbolic function when a person is sick and needs healing (X11). For medical purposes dried elephant dung is burned. According to the interviewee, inhaling the resulting smoke is supposed to release pain (like headache) (X11). For skin injuries and irritations, a bath is prepared by adding elephant dung to boiling water (X11). The interviewees stated that elephant dung is used in traditional healing practices because of its medical ingredients. “The elephant eats any kind of tree and in some trees is medicine. If you combine all the trees elephants are eating, you have a good medicine” (X11). The symbolic function of elephants also refers to people who need healing. When someone is sick, they need to dream of an elephant in order to recover: “The elephant is passing you and driving cold wind to you. When you wake up, you feel well. If we dream of elephants, we say it’s our forefathers coming to help us (X11)”. Munembome (coming from Zemba tribe) knows about the meaning of elephants in dreams as it is also part of his own tradition (X13). He referred

to the elephant as a “connector between human and god” (X13): “Traditionally we have a system of worshiping [...] called the holy fire […]. If someone has an ill health, we bring him to the holy fire, praying to our ancestors to ask god to let this person dream of an elephant to become healthy.”

He further said that the meaning always depends on the individual but there are similarities between the meaning of elephants in different ethnic groups (X13). He experienced that it is common to Herero, Damara and Himba people to talk to elephants in order to get them out of their way. In Okangundumba a man told a story, which supports Munembome's observation (X7): According to his story, he was driving on the road in the evening, accompanied by a friend, as suddenly an elephant appeared and started to chase the car. They couldn't escape as they had to stop the car because a river was crossing their way. In this situation the man remembered stories about talking to elephants which he was told by elders. That's when he started to talk to the elephant, asking him to let them pass and in the end the elephant turned around and went away (X7).

Munembome collected further stories about the traditional meaning of elephants. One story, he heard in Ongongo conservancy, says, that when a child is born on the day an elephant dies, this child is considered a special person that gets strength and health from the elephant (X13). “When people go for hunting and a mother gives birth to her child the same day the elephant dies, then this person is called a special person. […] Sometimes they bring the newborn child to the place where the elephant died to let this baby talk to the elephant” (X13).

During the fieldwork project, too little data was collected to make any generalisations about the meaning of elephants in traditional beliefs. Nevertheless, these anecdotes show that elephants are considered to have a special meaning in tradition, particularly linked to strength and health. Munembome stated that “the elephant is a big animal in our tradition” (X13). When researching elephants’ traditional meaning, it is the older generation who should be asked (X13): “That is why they [older people] think elephants need a good treatment. That is really known especially in old people. Modern people drive those beliefs away.”

5.3.3 Game Guards’ Perceptions on Trophy Hunting

Game guards are crucial actors in conservation politics of Namibia. They actively manage wildlife according to their tasks and, as they are paid by conservancies, they benefit from the income generated through trophy hunting. The responses by game guards were more differentiated when talking about trophy hunting of elephants. A man, who started to work as a game guard years ago, spoke very passionately about his job: “The community is very proud of me. I bring the economy to the community” (X9). As part of the conservation management, he does not only protect animals but also help the community benefit from conservation. Therefore his opinion on trophy hunting was more complex: On the one hand, quotas issued for trophy hunting should be

higher so that more money can be generated but on the other hand, when it comes to elephants, another view was held:

> *"I am protecting elephants for future generations. I always tell the younger ones to go and watch the elephants because that's why the conservancy is here, so that the children can see them and their children too." (X9)*

> *"People who shoot elephants are not good. I need elephants to be here so that people can come and take pictures and not shooting them. Elephants should be taken out of quota because it's very few of them now. […] If you don't have elephants in your area, then your area is not good, it's not nice. You need elephants." (X9)*

His statements reflect the concern regarding the impact of hunting on the low elephant numbers in the region while at the same time emphasising the importance of elephants for game-viewing tourism. The disappearance of elephants would have a negative effect on conservancies as no income could be generated at all. While he supports higher quotas for other animals, he put an emphasis on the bequest value of elephants as well as the non-use values, opposing the utilisation informed conservation politics. These mixed attitudes, that include both utilisationist and preservationist arguments, are also reflected in his answer to the question if he likes elephants: "I myself like elephants a lot. […] Not talking as a game guard now but as a person. I like the elephants. Everyone wants to see them. Look around, there is a lot of cattle, but no one will show you. Everyone will show you elephants." (X9)

This statement implies the local awareness of international perceptions of elephants, viewing the elephant as special and exotic ("Everyone wants to see them"). Further, the game guard distances himself from the opinion he holds as a game guard. His attitudes towards elephants and the value ascribed to elephants are difficult to put in either positive or negative categories. On the one hand, he supports trophy hunting in general and wishes for more animals on quota. On the other hand, he doesn't support trophy hunting of elephants due to his concern that they might disappear if hunted. Firstly, this concern relates to the bequest values of elephants as he wants future generations to be able to see elephants in the wild and secondly, to the non-consumptive use value as tourists are coming to view elephants and take pictures. But when "talking as a game guard" again, he emphasises the negative impact of elephants on local livelihoods and the need of communities to profit somehow when they are suffering from elephant related damages like crop raiding (X9).

Another man who had been working as a game guard for several years when the interview was conducted, had similar ambiguous attitudes not only towards trophy hunting of elephants but also towards trophy hunting in general. "We need them [the animals]. We want them to be in the place. If we kill animals, we will chase them away" (X6). His statement indicates that he is concerned about the impact of hunting on animals' behaviour. Even though he likes elephants because they bring money to the conservancy, which is used for paying game guards, he would

prefer to generate money only from non-consumptive tourism: “We need 3-4 lodges, then we don't need to hunt them [elephants] again, because then we need the animals here so that they can be like our cattle, people will come and we bring them to watch the animals” (X6). When asked if there should be more animals on quota in general, he indirectly agreed by depicting the problem, that so far too little money is generated from trophy hunting to pay the game guards properly: “We work hard and long but are not paid enough. More animals on quota would bring more money” (X6).

The game guards’ work for the protection of wildlife contributed significantly to the recovery of the elephant population, which might be a reason why their feelings regarding trophy hunting are quite ambiguous with the result that non-consumptive tourism is preferred. In contrast to the other interviewees, who emphasised the need of higher elephant quotas due to the growth in population, all interviewed game guards estimated the number of elephants to be rather low. This more informed view let them have concerns about a decline in numbers and the negative impact of trophy hunting on game-viewing tourism. During my conversations with game guards, they highlighted the benefits generated through trophy hunting, but at the same time they question its sustainability. Their attempt to balance the protection of animals with the benefits for communities leads to conflicting emotions regarding trophy hunting.[28]

5.4 Local Perceptions in the Discourse of Elephant Conservation

Individual values have a direct impact on how people interact with elephants and what they think about elephant conservation in general. “Specific patterns of values held by a person create 'value orientations' or basic belief patterns, which shape the way the individual interprets and understands the world. This influences the attitudes and opinions held by a person on particular objects or issues” (Twine and Magome 2008: 208), which in turn affects their behaviour. The variety of reasons why people value wildlife can be categorised into different societal values (Twine and Magome 2008: 208). These values are socially constructed and influenced by various factors “[…] such as personal experience, ethnicity, culture, gender, age, socio-economic context, and political orientation” (Twine and Magome 2008: 208). Trophy hunting as a conservation measure provides a good example of how controversies over wildlife management are a result of fundamental differences in values and attitudes (Twine and Magome 2008: 207). In order to either support or criticise current elephant management, different values are emphasised by different stakeholders. Those discussions reflect the anthropocentric-biocentric continuum of environmental value orientations in society (Twine and Magome 2007: 209).[29] But,

[28] The study of Angula et al. 2018 indicates that a trophy hunting ban will weaken local support for wildlife conservation. But there were also respondents (even though very few) who were concerned about the negative impact of hunting on wildlife populations (e.g. a decline in wildlife numbers) (Angula et al. 2018: 30).

[29] As chapter 3 already showed, the continuum shapes conservation politics and sets the focus either on utilisation or preservation.

“[i]n reality, these value orientations are not mutually exclusive, and individuals or societies may exhibit a combination of values” (Twine and Magome 2008: 209).

The investigation of local people’s perceptions on elephants and the values derived from the presence of elephants reflects the complexity of economic valuation which is based on socially constructed values. Interviews conducted in Kunene show the strong emphasis on the consumptive use value of elephants, which reflects the impact of national conservation politics and supports the utilisationist argument that people need to profit from elephants in order to conserve them. According to utilisationists, there must be an economic incentive for local people to tolerate the presence of elephants and to associate positive values with them, as they can cause high costs and pose a threat to human life (Moore 2011: 53). If not given this incentive, people won't support elephant conservation and might return to other land use options that have “greater direct value” (Moore 2011: 53). However, research in Kunene showed that elephants are also valued for their existence as well as for their ecological function. Those findings are in line with the Moore's research results in Zambezi (Moore 2011) which “demonstrates the limitations of measuring societal values with economic instruments because although people may not necessarily be willing to pay cash to live among elephants, they do tolerate their presence and value their existence in other ways” (Moore 2011: 55). Even though most people wish for a higher elephant quota, they also derive values from watching elephants or knowing that their descendants will see elephants in the future. But in the international discourse, local people's perceptions are often simplified (Moore 2010: 20). Thereby, local people are put into categories of either “conservation heroes”, who love elephants or “environmental villains”, who oppose elephant conservation (Moore 2010: 19). Local people are considered as conservation heroes to demonstrate the success of CBNRM and sustainable utilisation as a conservation measure (Moore 2010: 25f.). If economic benefits are received, local communities are committed to retain elephant populations and support conservation. The argument that as long as people profit from elephants in economic terms, they will support their conservation sheds a negative light on human-elephant relations as it reduces the perceptions to the negative impact of living with elephants (Moore 2010: 23). Furthermore, it ignores that the first community-based conservation projects in Kunene (before CBNRM was implemented) were supported by local communities without deriving any benefits from wildlife (Jones 2001: 166f.). On the other hand, the utilisationist argument implies that people will become environmental villains who view elephants as liability when no economic benefits are received (Moore 2010: 23). This indicates that elephants “have no intrinsic value to people” (Moore 2010: 23) and relations are purely based on economic value. Although this assumption is based on simplifications, it is widely used in the international discourse on elephant conservation (Moore 2010: 27). The concern that local people might start to oppose elephant conservation if they no longer receive benefits was also expressed during some conversations with different conservation actors. Even people who hold

the opinion that issuing elephant quotas in Kunene cannot be viewed as sustainable, fear that local people would start to shoot elephants themselves if they don't gain any quota for elephants. In order to keep people from participating in illegal hunting activities, low elephant quotas are issued to the conservancies.[30]

The simplification used in the international discourse does neither fully cover people's perceptions of elephants nor the "[…] complex sociocultural interactions people have had with elephants through history" (Moore 2010: 23). People do value elephants for a variety of reasons and their perceptions of them are very complex and cannot be put into the binary categories of "love" and "hate" (Moore 2010: 23). Interviews conducted in the Zambezi region revealed that the interviewees "had conflicting emotions regarding elephants" including "anger, fear, awe, respect, and admiration in addition to concerns regarding the damaging aspects of occupying elephant range, regardless of whether elephant presence led to economic benefit" (Moore 2010: 23). Statements by interviewees were often characterised by contradictions reflecting the complexity of people's perceptions of elephants (Moore 2010: 23f.). Nevertheless, these categories remain "powerful 'tools of persuasion' used at the state level to support and legitimate conservation policy and resource use in relation to the concerns of transnational environmental actors" (Brosius 1997 in Moore 2010: 20). While both utilisationists and preservationists make use of these categories to support their own conservation agendas, it is important to see the bigger picture (Moore 2010: 27):

> *"Denying or failing to recognise these perceptions is significant because it will result in misunderstanding the way in which rural people see, understand and make sense of the world around them. It will also prevent rural people from being fully represented in debates that influence their lives [...]."* (Moore 2010: 25)

[30] Sometimes conservancies may share a quota for an elephant (e.g. NACSO 2017).

6. Human-Elephant Relations in Kunene: Local Perceptions and Attitudes

As explained in chapter 5, people who are not living in elephant home ranges tend to perceive elephants mostly in a positive way. At the local level perceptions are more complex, as residents in elephant ranges have to balance the value of the presence of elephants with the costs from living with them. The costs are not only expressed in monetary terms but can also refer to the impact on mental well-being: "The reality of living with elephants is often overlooked […]. To be inside a house made of mud and sticks whilst a herd of elephants are outside is an incredibly scary experience" (EHRA 2020a). This does not mean that local perceptions of elephants are only informed by negative interactions and reduced to conflicts. Elephants are valued for a variety of reasons and there is evidence that some sort of well-being is derived from elephant presence at the local level (see subchapter 5.3.2). Nevertheless, the impact of elephants on rural livelihoods is an important fact to consider when investigating local values and perceptions of elephants. The negative side of living with elephants is gaining increasing attention in scientific literature (Twine and Magome 2008: 206). Twine and Magome note, "the 'conflict paradigm' (Lee and Graham, 2006) has presented an unbalanced perspective on the way elephants and humans interact by overlooking positive interactions" (Twine and Magome 2008: 206).[31] Even though positive interactions between elephants and local people might not be as present in literature as human-elephant conflicts, research on negative impacts of living with elephants remains an important issue. This research aims at mitigating conflicts by developing and evaluating strategies in order to improve the lives of both elephants and humans:

> *"Successful sustainable development requires the harmonisation of both environmental and human development goals, and resolving human wildlife conflict is central to this aim, bringing together the two perspectives in order to create a sustainable future for both wildlife and rural communities."* (Jones and Barnes 2006: 10)

Presenting data from fieldwork done in Kunene, the first subchapter demonstrates the impact of HWC on local people's livelihoods. The second subchapter deals with local people's perceptions of elephant behaviour and how the interdependence of local knowledge and perceptions can assist in improving human-elephant relations.

[31] Twine and Magome (2008) refer mostly to interactions between elephants and people who are not living in elephant home ranges like tourists. But as this thesis has already shown, positive interactions can also be found on the local level.

6.1 The Impact of Human-Elephant Conflicts on Local Livelihoods

"Human wildlife conflicts in Namibia have become more frequent and severe over recent decades as a result of human population growth, wildlife population growth, unplanned agricultural activities, and expansion of agricultural and industrial activities which together have led to increased human encroachment on previously wild and uninhabited areas."

(MET 2018: 9)

As wildlife numbers increase, so do human-wildlife conflicts (Jones and Barnes 2006: 6). Jones and Barnes define human-wildlife conflict "as any event in which animals injure, destroy or damage human life or property (including the destruction of crops) and are killed, injured, captured or otherwise harmed as a result – i.e. both humans and animals suffer from the interaction with each other" (Jones and Barnes 2006: 10). Most conflicts concerning elephants are a result of competition for resources and habitat between growing human and elephant populations (MET 2018: 8). In search for fresh water, elephants prefer boreholes near settlements and thus are found in areas of high human and domestic stock density, which are avoided by many other wildlife species (Leggett et al. 2004: 4). The pressure from droughts as well as the effects of climate change might worsen the competition for resources and lead to increasing conflicts (MET 2018: 9). In the course of potentially rising conflicts, management strategies are needed which support the co-existence of humans and wildlife. The level of costs and kind of damage caused by the same species can vary between different regions (MET 2018: 19). Whereas crop raiding by elephants poses high financial losses in the northeast of Namibia, the major problem regarding elephants in the northwest is the destruction of water installations (MET 2018: 19). In order to efficiently develop and implement strategies for preventing and mitigating elephant related conflicts, analyses are needed to identify the main problem areas i.e. the most impacted conservancies, as well as the types of damage and the species involved (Brown 2011: 2).

6.1.1 Human-Elephant Conflicts in Kunene

Human wildlife conflicts are categorised into garden and crop damage, livestock losses, infrastructure damage and human attacks (Brown 2011: 2).[32] During the interviews in Omatendeka, Okangundumba, Ozondundu and Anabeb, reports on elephant related damages covered all four categories.

The highest number of elephants in Namibia can be found in the Zambezi Region in the northeast of the country (Thouless et al. 2016: 173). Conservancies in those regions suffer the greatest crop damages by elephants (Brown 2011: 3). In north-western areas of Namibia elephants also

[32] Adopted from Chris Brown's analysis of human-wildlife conflicts in MCA-supported (Millennium Challenge Account) conservancies for the five-year period of 2006-2010. For each category a monetary value was calculated and then applied to the HWC incidents (Brown 2011: 3). The monetary values are based on "actual costs of replacing equipment, market values of livestock and crops as well as labour costs for repairs" (Brown 2011: 3). Brown applied some regional variation e.g. different sizes of gardens in different regions (Brown 2011: 2).

damage small gardens, but “the main form of damage caused by elephants [...] is to infrastructure for water provision and to fences” (Jones and Barnes 2006: 18). The southern Kunene regions are worst affected by infrastructural damage (Brown 2011: 5). In all conservancies visited during the fieldwork, people reported that elephants pull out pipes and damage tanks of water installations in search for water. The repair of such installations poses costs, which “are not distributed evenly across the conservancy” (Brown 2011: 5):

> *“Particularly in the Kunene, elephants follow particular routes down river courses and between river systems, and have favoured feeding areas in different seasons. This makes individuals farmers more prone to experiencing infrastructure damage, particularly in drier seasons and years.”* (Brown 2011:5)

Further costs arise for additional expenditures for pumping more water for the people themselves and their livestock (Jones and Barnes 2006: 18).

Regarding livestock losses, the north-central regions and Kunene are hit hardest (Brown 2011: 4). Those “predominantly cattle-farming conservancy areas” suffer the greatest overall HWC losses due to the high value of livestock (Brown 2011: 9). Most livestock losses are caused by predators (Brown 2011: 4) but elephants pose a potential threat as well. During conversations about elephant damages in Kunene, interviewees complained about elephants hurting or killing cattle when entering settlements. As I visited a family in Okangundumba conservancy, I was shown the damages elephants had caused the night before. The kraal (fences for keeping cattle in during the night) and other fences of the settlement were destroyed and the gardens trampled down. When the elephants broke the kraal one goat was seriously injured and therefore had to be shot by its owner. Similar cases were also reported in other conservancies (X2). Some interviewees assume that elephants aim at kraals because they like the salty stones provided for the cattle (X2). When breaking fences, elephants can not only cause financial losses by killing livestock but also by opening the gardens for livestock, which will eat what the elephants have left (X7). Encounters between elephants and livestock always involve the risk of livestock being killed, especially in the dry season when they are competing for the same limited resources e.g. when drinking at the same water point (X11).[33]

Elephants additionally pose a physical threat to people, who are living within their range. Encounters with elephants can end in serious injuries and / or death of people, which is referred to as *human attacks* in Browns analysis (Brown 2011: 6).[34] In different areas different wildlife species are responsible for attacks on humans. In Zambezi region crocodiles and hippos are mostly involved, whereas elephants play a more significant role in Kunene (Brown 2011: 6).

[33] According to interviewee X11 elephants kill livestock when it is not moving away from the feeding ground or water point elephants want to visit. Elephants will break trees that hit the cattle, take it with the trunk and smash it on the ground or just trample them down (X11).

[34] Browns study only states the numbers of those incidents and does not put a monetary value to the loss of human life as it is considered inappropriate.

Concerning human attacks, all interviewees in Kunene stated that elephants can be a threat to human life and some reported the story of a Himba woman in Omatendeka, who was killed by an elephant a few years ago (see subchapter 6.2.1.3).

Because of their size, strength and intelligence elephants can develop enormous disruptive forces.[35] Even in areas with relatively low elephant numbers the impact of elephant related incidents should not be underestimated. Research on HWC has contributed to the development of strategies for HWC conflict prevention and mitigation (Jones and Barnes 2006: 11). NGOs, MET staff and local communities are working on different strategies to prevent human-elephant conflicts (Jones and Barnes 2006: 51), which are explored in the following subchapter.

6.1.2 Prevention and Mitigation

In Kunene water installations are very prone to damages by elephants, as they consume large amounts of water with about 170-230 litres per day (EHRA PEACE Project 2019: 28). Walls proved to be an effective protection when they are well-constructed to withstand elephants (Jones and Barnes 2011: 46f.).

A variety of strategies have been developed to react to elephants, which are entering settlements. Most of the people interviewed light fires around the houses to drive elephants away because they neither like the smell of smoke nor the light of fire (X2). Also, acoustic deterrents are used to chase elephants away, which include shooting in the air or beating against objects to make noise (X6). Those “traditional deterrent methods” can be efficient for a limited period but as observed in Zambezi, elephants become used to them and may also respond with aggressive behaviour (O’Connell 1995 in Jones and Barnes 2006: 50). Acoustic and light deterrents were the most common strategies applied by the interviewees probably due to their simple management and availability. Local residents further built barriers by digging ditches or building up walls with sharp stones around the gardens to prevent elephants from entering (X4). The interviewees themselves did not seem to be very convinced by the effectiveness of those strategies. Although they sometimes prevent damages, more often they remain inefficient (X4).[36]

Another method is the use of chilli to keep elephants away (X5). So far “agriculture-based deterrents like chili-grease covered fences and chili dung have had limited testing and use” (Shaffer et al. 2019: 5) but experiments in Zambezi indicate that chilli methods can be efficient deterrents to elephants (Jones and Barnes 2019: 46). In Kunene some interviewees viewed chilli grease to be quite successful (X4, X5) whereas others stated that the method only works to a limited extent (X10).[37] Furthermore, the maintenance of chilli fences is challenging for some

[35] The elephant is the largest living land mammal on earth. A bull can stand up to 4 m high at the shoulder and weight up to 8 tons whereas female elephants are smaller (2,5m) and only weight around 3 tons (EHRA PEACE Project 2019: 4).

[36] Elephants sometimes just walk across the ditches or destroy the walls and lighting fire only works when the wind is blowing in the right direction (to the elephant) (X4).

[37] X10 told that elephants are not deterred by chilli when the plants of the garden start growing bigger.

people (X10), a problem also mentioned in Shaffer et. al. stating that "[…] high costs for application and maintenance make this technique economically prohibitive for many communities" (Baishya et al. 2012 in Shaffer et al. 2019: 5). The same problem occurs with electric fences. They can provide efficient protection of gardens but this method "[…] rarely works even in game reserves because of a lack of capacity to maintain them" (Stander in Jones and Barnes 2006: 45). In Kunene the failure of electric fences seems to be related to issues of ownership and maintenance as "the conservancy did not take responsibility for the fences, and expected the NGO to maintain them even though the fences had been signed over to the conservancy as their property" (Esterhuizen in Jones and Barnes 2006: 45).[38] This problem was also mentioned by an interviewee, who stated that the electric fence was quite successful in the prevention of garden damages by elephants but as it broke no one came to repair it (X10).

In some cases, the removal of elephants seems to be necessary to prevent further conflicts and / or to mitigate conflicts which have already happened (MET 2018: 16). The relocation of elephants is possible but linked to high costs, especially when larger numbers need to be moved (Jones and Barnes 2006: 50). Further problems regarding relocation are the lack of areas elephants can be moved to as well as the possibility that elephants might return to the original areas (Jones and Barnes 2006: 50). According to a game guard, a herd can also be moved to another region by chasing the leader of the herd with cars and shooting bullets in the air, but this can only be done in cooperation with the MET (X6). A last attempt to prevent further conflicts and mitigate conflicts that have already occurred, is the lethal removal of elephants. Lethal removal is an option for dealing with so called problem animals, which repeatedly cause problems or have attacked and / or killed a person (MET 2018: 20). The shooting of a problem animal is not decided at the local level but needs permission from the MET (Jones and Barnes 2006: 34). The procedure to report a problem animal and request permission has shown to be inefficient in some cases (Jones and Barnes 2006: 33). Due to the lack of mobility in rural areas, it can take a long time until the problem animal is reported to the MET (Jones and Barnes 2006: 33). Furthermore, a longer period of time usually passes between the actual incident and the granting of permission due to administrative issues (MET 2018: 16). As a result, the problem animal has usually already moved away in the meantime and / or the wrong animal is shot in order to placate people who suffered from the losses (MET 2018: 16). The need to devolve authority so that local conflicts can be dealt with on a local level is also addressed by the MET, which tries to find strategies to improve the handling of problem animals (MET 2018: 16). Despite the challenges, lethal removal offers the opportunity to generate income to the conservancy by selling the problem animal to trophy hunters (Jones and Barnes 2006: 50). The main issue here is that the greatest "costs as a result of HWC occur at the household level" but are often not

[38] Esterhuizen refers to the work of IRDNC who assisted in building 9 electric fences in Kunene conservancies (Jones and Barnes 2006: 45).

compensated by the income generated at the conservancy level (Jones and Barnes 2006: 20).[39] The MET supports CBNRM as a mitigation tool for HWC but also acknowledges that mechanisms are needed to offset the losses of those who are affected the most (MET 2018: 15). In order to offset the losses inflicted by HWC, the MET is developing schemes like the self-reliance scheme or, more recently the self-insurance scheme, which should be used by conservancies for the compensation of damages that were inflicted by HWC (MET 2018: 23f.).

6.1.3 Challenges of HWC Management

A major problem of the mentioned prevention methods are the high financial costs that come with the implementation and maintenance of some strategies (electric fences, chilli methods) even though NGOs often assist with the implementation. Furthermore, the adaptation of elephants to some methods makes well-working strategies useless in future.[40] As the MET states "There are a number of technical solutions to preventing conflict that have been tried and tested. However, some species, such as elephants, become habituated to certain solutions and there is a need for ongoing experimentation with new methodologies" (MET 2018: 18).[41] Although the economic benefits generated through trophy hunting have led to an increased tolerance among local communities to live with elephants, there are still some remaining challenges, especially in finding mechanisms that allow the distribution of financial benefits to the household level so that those who are affected the most can be reached (Jones and Barnes 2006: 67).

Even though the financial offset generated through trophy hunting is important for local communities to mitigate elephant related conflicts, the shooting of a problem animal implies that a serious conflict has already happened e.g. a person has lost her or his life and therefore the elephant is shot. Thus, both sides have suffered from the interaction with each other. Therefore, it is important to work on preventative measures in order to reduce conflicts. Knowledge on elephants and their behaviour can play a vital role in mitigating human-elephant conflicts (Moore 2009).

[39] An interviewee of Okagundumba states that trophy hunting is of no use for the communities. His frustration over elephants rooted in the financial losses due to elephant presence, which are not offset with the income of trophy hunting. Among the interviewed conservancy members, this interviewee is the only one perceiving trophy hunting as not having an impact on local livelihoods (even though acknowledging meat distribution).

[40] My interviewees considered electric fences the most efficient prevention strategy but Shaffer et al. also noted that "Studies show that once African elephants learn that their tusks do not conduct electricity, they may use their tusks to break an enclosing electric fence, resulting in costly damage to the fence (Graham et al., 2009a; Mutinda et al., 2014)" (Shaffer et al. 2019: 4).

[41] In Kenya beehive fences were tested "as a multidimensional conflict-mitigation tool" for elephant related conflicts (King at al. 2017: 1). Research shows that elephants avoid contact with bees and react with warning calls to other elephants when hearing the sounds of disturbed honey bees (King at al. 2010). The beehive fences do not only reduce crop raiding incidents but also provide an additional income source as honey can be sold, which offers an incentive for farmers to maintain the fences properly (King at al. 2017: 7). Also, EHRA provides information on how to construct beehive fences and gives advices on how to use them (EHRA PEACE Project 2019a).

6.2 Knowledge and Perceptions on Elephants

As described in the previous chapter, elephant presence can have negative effects on rural livelihoods. Just being aware of the fact, that elephants may be close to the own settlement will change people's behaviour and activities. According to an interviewee in Ozondundu, people take precautions if they know or have heard of an elephant moving around and possibly even passing through a village nearby (X1). “When there are elephants around we don't go out in the fields to look after the cattle because you don't know where the elephants are and how the wind is blowing. […] We know that if we meet an elephant while moving through the fields, we die” (X1). Furthermore, children won't leave the villages in order to go to school and people will avoid driving during the night as the sight is limited and elephants could catch them off guard (X1). These restrictions show the impact of the presence of elephants on the everyday life and behaviour of local people. Drawing on data of my fieldwork, this chapter seeks to investigate the influence of experience and knowledge on local people’s perceptions by analysing their descriptions of the character and behaviour of elephants. Those descriptions demonstrate: 1. how local knowledge can assist in avoiding conflicts and 2. how the interpretation of elephant behaviour by local people can help to understand the elephants and thus improve attitudes towards them.

6.2.1 Perceiving Elephant Behaviour: Local Descriptions

When residents in Kunene were asked to describe the elephant's character, it seemed that they were often struggling to find an answer they felt satisfied with. After a resident of Ozundundu took a longer pause for thinking about this question and some attempts to give an answer, he finally said: “I just can't describe the elephant's character because they are different and always changing” (X3). Most people responded to the question by describing the behaviour of elephants during encounters. In the following, local people’s perceptions on elephant behaviour will be investigated as well as their explanations for changes in elephant behaviour. In order to get a more accurate picture on elephant behaviour, the following subchapters also draw on literature about the behavioural ecology of elephants.

6.2.1.1 Changes in the Behaviour of Elephants due to Previous Experience

The first thing, local people mentioned when talking about elephants was, that the smell of humans will change the character and behaviour of the elephant. This statement was usually followed by the advice to never get too close to an elephant and to always escape the wind in case of an encounter (X12). Being aware of the disruptive forces elephants can develop due to their strength and intelligence, people try to keep them at a distance (X1). But sometimes an encounter is inevitable e.g. at water points, on the road or when elephants enter human settlements. According to all interviewees, the first thing to do when seeing an elephant is to find out more about the direction of the wind. During a conversation with an older man in

Omatendeka, he told me that he used to go out in the fields to look for elephants when he was young. The elders advised him that “You are very lucky [to come back to the village alive] because elephants are usually not like this [calm, friendly]. When they smell you, they will kill you” (X7). The smell of humans was often an explanation by locals for the changing character of the elephant. “Sometimes when you meet an elephant, he just stands still and looks at you. The other time you meet an elephant, he lifts one leg, which means he is angry because he smells you” (X7).

Furthermore, local people explained, that the elephant’s character and behaviour can change between different places, depending on what the elephant has already experienced and what it remembers when entering an area. A rhino ranger said that elephants beyond the Hoanib River grew up with travellers taking pictures. Thus, they are used to tourists in that region and behave friendly even when people are around (X8). In other places where elephants have been threatened by people before, they will remember this when they enter that region again: “Elephants were chased away by people imitating the sound of bullets. The elephant remembers that people in this region might do harm to him and gets angry at people” (X8). The changes in character are perceived to be a result of good and bad interactions between humans and elephants in the past. The rhino ranger stated that in worst case, elephants do not only remember the place where they experienced negative interactions with humans, but the smell of humans in general, connecting this smell with a threat. As a result, elephants will be angry at all times when they notice the human smell - even in areas they used to have positive interactions in:

> *“Today the elephant will just pass here without doing anything and while he goes to another place, entering gardens there, people will try to chase them away with cars and dogs and even bullets. Then this elephant comes back to our region; he had realised that people want to kill him. So, the elephant remembers and he can change in a minute. He will kill you.”* (X8)

6.2.1.2 Changes in the Behaviour of Elephants due to Social Structure

The conversations about elephants showed that people who are living in elephant range are very observant of elephant behaviour and well aware of the factors that have an influence on it: This does not only include previous experiences with human encounters but also changing social structures and herd constitutions (see Table 2).

Changes in social structure	Local descriptions	Behaviour
Female elephant with calf	“The female elephant is very angry when they have babies, they are protecting and always watching what is moving around.” (X1) “Elephants are calm when you not come too close. Only females with calves are aggressive.” (X5) “Female elephants show bad behaviour when they are having babies. They can be more aggressive than males because they are protecting the calves.” (X11)	Protective, observant, and more aggressive due to the protection of calves
Missing leader	“A herd is ok but a single elephant is dangerous because there are no others to stop him, the leader controls the herd.” (X6)	More aggressive due to the lack of a leader
Male elephant in musth	“When I was in Okavare I saw an elephant chasing cars. The elders told us, when he is like that, he doesn't have a wife.” (X7)	More aggressive due to higher testosterone level

Table 2: Local observations of changes in elephant behaviour due to social structure

As indicated in the interviews, local people consider female elephants to be more dangerous than male elephants. Particularly when they have young offspring, female elephants are vigilant at all times (X1). Even when they do not have calves of their own, they protect other herd members’ calves (X1). Furthermore, interviewees observed that group dynamics have a positive impact on elephants. The general perception derived from this observation is that meeting one single elephant can be more dangerous than meeting a whole group. Local people offer two explanations for this. First, there are no other elephants to stop a single elephant from doing harm (X6). Scientific research on the influence of older bulls on younger male elephants supports this perception (see chapter 4.2.2). The second explanation refers to male elephants in musth (“he doesn't have a wife”). When in musth, male elephants show more aggressive behaviour while looking for a female to mate with (see chapter 4.2.2).

6.2.1.3 The Memory of an Elephant: Stories about Deadly Encounters

When I asked about the character of elephants in my interviews, some people told stories about deadly incidents that involved elephants, emphasising once again that elephants can be very angry and unpredictable: “Even if you see it [an elephant] from [a]far, it could be an angry animal, you don't know” (X6). When it comes to incidents in which people were killed by an elephant, Munembome holds the opinion that people often do not consider the incident's circumstances. Stories about deadly encounters are told and retold among community members fostering fear and negative attitudes towards elephants (X13). As an exception to this assumption, he told a story of a community, in which he had one of his first trainings for EHRA. It was a story about a man who got killed by an elephant in August 2007. The community members said that the

elephant had a reason for killing this man: “He was a bad man to the elephants” (X13). Every time the elephants could smell him, they ran away, making a lot of noise or behaving more defensively (X13). Munembome’s former colleague told him, that this man used to shoot at elephants:

> *“He was close to the river, there are always humans, wild animals, domestic animals, the river is for life. Now this person was also in the bank of the river and because they [elephants] came to his place here and then he shot at them. Even though he was a game guard who loved elephants. […] But he could not stand their damage.”* (X13)

The story continues: One day the game guard injured a calf (X13). He reported the incident to the MET and therefore was not arrested but warned (X13). From that day, he kept an eye on the wounded calf when the herd came back to the area to report to the MET about its condition (X13). But whenever the elephants could smell his presence, they became upset and started “dancing because of their unrest” (X13).

> *“The calf survived. Maybe one thing that they [elephants] then came to know was the smell of the game guard. […] And from there, we believe, that this was the cause of this killing. Because cow elephants adopt this memory […] they are remembering even the smell of a problem area or particular problem species for quite a long time. They can go far up to 7 years, they can still remember how you were smelling when their cow was lost or when their calf or bull was lost.”* (X13)

The story demonstrates that local people assume that elephants have a good memory as they are able to remember interactions with humans, even if they happened a long time ago. Furthermore, it indicates that the elephant is perceived as being able to recognise a person by smell and to associate this smell with the experiences they have had with this person. Research suggests, that elephants additionally have the ability to distinguish between human subgroups and the level of danger these subgroups pose by analysing acoustic cues of human languages (McComb et al. 2014: 5433).[42] Vocalisations provide “a much richer source of information” as gender and age or even “cultural divisions” can be identified (McComb et al.2014: 5433). Additionally, vocalisations and the information they convey can be heard before the threat is even visible, providing an “early warning system” for the elephant (McComb et al.2014: 5433). In the study of McComb et al., elephants were more likely to show “defensive bunching and investigative smelling” when listening to the playback of male Maasai voices compared to Kemba voices (McComb et al.2014: 5434). The frequent conflicts between Maasai pastoralists and elephants over water and grazing resources for the cattle sometimes end with elephants being speared, which might be the reason for connecting a higher level of danger to the Maasai

[42] The study by McComb et al. 2014 focussed on family groups of free-ranging African elephants in Amboseli National Park, Kenya and their reactions to Maasai and Kemba voices (McComb et al. 2014: 5437). The experiment did not include the observation of single bulls or bachelor herds.

(McComb et al.2014: 5433). Elephants appear to be able to connect their previous negative experiences with the Maasai to the distinct acoustic cues of their voices and thus react according to the potential threat. The ability to assess the levels of risk posed by human predators is seen as a "cognitive challenge" as "different groups of humans can represent dramatically different levels of danger to animals living around them" (McComb et al. 2014: 5433). As indicated by the study, elephants are able to develop these skills to avoid conflict situations or at least to react according to a threat by assessing the level of risk (McComb et al.2014: 5434). This is important as a misjudgment of the threat also has its negative consequences:

> *"Antipredator behaviour can be energetically costly as a function of reduced foraging, increased locomotion, and elevated physiological stress that could ultimately impact the fitness of individuals within the family group, especially if elicited frequently in situations of comparatively low risk."* (McComb et al. 2014: 5437)

Another story of a deadly encounter was told in Omatendeka conservancy. According to that story, a Himba woman was killed by an elephant a few years prior to the interview. The interviewees said that she must have run into an elephant in the fields and then tried to escape by climbing up a mountain (X7). But the elephant chased her very angrily and finally caught her (X7). According to the interviewee, the elephant had been waiting for two days next to the dead body to see if the woman was still moving, before the MET came to shoot the elephant (X7). Nobody could tell why the elephant was so angry. A game guard added to this story that it is impossible to know the reasons why elephants are sometimes calm, even if they smell you, and sometimes aggressive (X9). He therefore concluded:

> *"It depends on what God says to you. If he decides you will die today, the elephant will kill you. But if not, he takes you out of the air. So if an elephant gets your smell he won't do anything, just moving around and nothing happens, just doing their thing but they will not come. But if God puts your paper out and sees your time has come, the elephant will come."* (X9)

6.2.1.4 Classification of Elephant Behaviour

The interviewees generally consider elephants as dangerous and angry animals with unpredictable behaviour. When I mentioned that I would like to see elephants, I was told by my interview partners to be aware of warning signals used by elephants in order to "show you that you are on the wrong way" (X2). Most interviewees had a detailed knowledge about the warning signals, including sounds and behaviour (e.g. spreading out their ears). Their descriptions of the behaviour of elephants and how to react indicate that local residents carefully observe elephants, assess their actions and react to them accordingly. Local people's statements suggest that they have observed the behaviour of elephants in different "zones of personal space", which requires different human reactions (EHRA PEACE Project 2019: 23) (see Table 3).

Zones	Elephant behaviour	Interviewees descriptions
Comfort zone	Distance, the elephant feels comfortable with the presence of other animals. They show friendly behaviour and may approach slowly.	“Sometimes he just stands still and looks at you.” (X7)
Alert zone	Distance, the elephant is aware of human presence and turns its attention towards people. They are curious or even nervous. Signs: Listening and smelling, trunk and foot swinging in people's direction to get the smell and vibration human reaction: remaining quiet, not moving until elephant is relaxed	“If [the] elephant's nose is pointing in your direction, he wants to get your smell.” (X9)
Warning zone	Distance, the elephant feels uncomfortable and threatened by people. They show annoyed and irritated behaviour. Signs: headshake, kicking dust, ears spread wide, sounds, standing tall, swinging of trunk, mock charge possible human reaction: backing off slowly	“The elephant is generally ok. Even during the night he gives you a sign and the chance to walk away.” (X7) “If he gets your smell, he will show you not to come close.” (X9) “When you meet an elephant it will give you a sign by making a sound to show you that you are on the wrong way.” (X2) “Elephants are trying to show you, that they are angry. They are making sounds and start moving so that you can go away.” (X8) “He gives you a sign with his ears and sounds, to show you to walk away.” (X7)
Critical zone	Distance, the elephant feels threatened. This zone is entered when warning signals are ignored. The elephant shows threat behaviour or even starts charging Human reaction: retreat immediately	Behaviour in the critical zone of an elephant is rather reflected in stories like that of the Himba woman. An example for an experience with elephants in the critical zone that some locals recalled is observing elephants chasing cars.

Table 3: Classification of interviewees’ statements into elephants' zones (adapted from EHRA PEACE Project 2019)

The actual distance that an elephant finds acceptable as well as the time it needs to calm down, differs from animal to animal (EHRA PEACE Project 2019: 23). Some elephants can easily feel threatened and may show warning signs, whereas another elephant or elephant group is still relaxed at the same distance. Some of the interviewees said that they had already been chased by elephants while driving in a car. It is difficult to assess the descriptions of elephants chasing cars because they fit into both categories, warning zone and critical zone, as they could be both

mock charges or real charges. Considering that mock charges can always become real charges the line between warning and critical zones can be blurred (EHRA PEACE Project 2019: 27).

6.2.2 The Importance of Knowledge for Human-Elephant Relations

The interviewees' statements indicate that human-elephant relations are influenced by fear of conflicts with elephants due to their unpredictability. On the other hand, the descriptions also reflect respect towards elephants, acknowledging that the elephant is "bigger and stronger than any other animal" (X4) and "the biggest animal here" (X1). In contrast to the assumption that local communities are often not aware of the circumstances which lead to dangerous situations with elephants (X13), my interviews suggest that people are very well aware of the factors that influence their behaviour. Their explanations for changes in the behaviour of elephants indicate that elephants are not perceived as being aggressive in general. People rather believe that elephants might also have their reasons for behaving the way they do. They did not only understand the impact of biological and social factors but also the influence of human activities (e.g. shooting at elephants) on the behaviour of elephants.

The descriptions of elephants show that local people who are living in elephant home ranges are observant of their environment and have a detailed knowledge about elephant behaviour. The same observation was made by Moore in Zambezi region (Moore 2009). Like in Kunene, the information given by local people in West Caprivi "provided cautionary warnings, which include danger signs, plus how human behaviour should be adapted in order to avoid confrontation" (Moore 2009: 335). Stories about elephant behaviour and the knowledge they convey are important to explore in the context of HWC because "[…] they assist group survival through the avoidance of conflicts with elephants" (Moore 2009: 336). Interviewees in Kunene stated that they derived their knowledge about elephant behaviour mostly from their own experiences and listening to stories of others (e.g. elders). As they teach people how to read elephant behaviour and how to react accordingly, stories told among community members can reduce the risk of negative encounters and therefore contain "conservation value" (Moore 2009: 336). The importance of being able to read the behaviour of elephants was highlighted in a conversation in Anabeb when the interviewee told a story of two tourists who were killed by an elephant because they ignored the warning signals (X11).[43] "If people understand the sounds and signs elephants make then they reduce the risk of negative encounters and conflict with them because they have the opportunity to withdraw from the situation […]" (Moore 2009: 336). Further, understanding the sounds and signs of elephants enables people to assess the level of risk they pose by distinguishing between e.g. grazing and angry (Moore 2009: 335).[44]

[43] A very similar story was also told in West Caprivi (Moore 2009: 335).
[44] Similar methods are used by elephants. As chapter 6.1.2.3 showed, elephants are able to assess the level of risk humans pose based on acoustic cues.

As Munembome emphasised, proper information on elephants is essential to prevent conflicts. Understanding the behaviour of elephants will not only help avoid conflicts but also improve attitudes (X13). Also, the MET recognises the importance of knowledge for conflict management: "It is also necessary to provide information on species behavioural patterns in order to help the public understand how best to avoid conflict arising" (MET 2018: 26). NGOs, conservancies and traditional authorities can play a vital role in providing such information (MET 2018: 26). Increasing elephant numbers pose a challenge, particularly to people who did not grow up with them and now have to learn how to deal with the situation (X13). EHRA puts the problem in the following words: "Local communities have lost the knowledge of how to live side by side with the elephants and often reactions towards elephants unintentionally provoke a dangerous situation" (EHRA 2020a). Moore's study in Zambezi shows that traditional knowledge on elephants has not necessarily been lost (Moore 2009: 345). It focuses on the role Indigenous Traditional Knowledge[45] plays in conservation and conflict management by analysing not only stories that are true, but also untrue stories (referred to as 'myths') (Moore 2009: 335). In contrast to the notion that cultural knowledge about elephants is lost because there was no need to pass that knowledge on due to declining elephant numbers in the past, Moore's study proves that some local communities "[…] have useful knowledge of how to avoid conflict with elephants, encoded through 'stories that are true' and mythical tales" (Moore 2009: 345). Myths assist in human-elephant conflict mitigation just like true stories, as they contain warnings but also offer explanations for the angry character of elephants.[46] These explanations have a positive effect on human-elephant relations as they assume that elephants do not become angry without a reason. Due to her findings in Zambezi, Moore's study suggests that indigenous traditional knowledge can be recalled or at least re-learnt, which is helpful for human-elephant conflict mitigation (Moore 2009: 345). The interviews in Kunene Region showed that the understanding of elephant behaviour is crucial to local communities. Further research is needed in order to investigate if myths about elephants can be found in Kunene Region as well. This would be an interesting research question in the context of conflict mitigation.

[45] "The knowledge which rural African people have obtained of their environment […]" (Moore 2009: 329).

[46] A farmer in West Caprivi told a story about the origin of the elephants' angry character to explain the damages that elephants cause today: "a crocodile made an elephant angry by pulling at his nose (thereby developing the long trunk). […] since this time the elephant has been very angry" (Moore 2009: 336).

7. Conclusion

Only a few publications can be found on local perceptions on elephants in Namibia. Moore has done a lot of research in the Zambezi Region, which provided valuable information on human-elephant relations and the values ascribed to elephants on a local level. This thesis provides an insight into human-elephant relations in the Kunene Region by investigating local perceptions on elephants and their conservation. Before the Community-Based Natural Resource Management was implemented, people of the Kunene Region maintained different kinds of relationships with elephants, but they were never actively involved in conservation politics. Through CBNRM, local communities now have the responsibility to manage wildlife in their areas. They are able to benefit financially from wildlife conservation through consumptive or non-consumptive tourism activities. Trophy hunting as a part of CBNRM is often criticised by preservationists, who question its sustainability.

As shown in Chapter 5 the stark focus on financial benefits by utilisationists reduces local perceptions and values of elephants as it assumes that, without any benefits, people would not support elephant conservation. This statement simplifies local perceptions. The results presented in this thesis show that residents of the Kunene Region value elephants for several reasons. Additionally to the economic value, a variety of other values are ascribed to elephants on a local level. Those values, e.g. aesthetic, ecological or bequest values are often overlooked in the international discourse about elephant conservation. Yet, for local residents those values play a significant role in their everyday lives. Local attitudes towards trophy hunting are generally positive, as it provides a monetary income for the conservancies. However, it is important to note that the importance of elephant presence goes beyond that. The interviews suggest that local people derive wellbeing from the presence of elephants. Nevertheless, it is unclear if local people would maintain these positive attitudes regarding non-use values of elephants if trophy hunting comes to an end (due to ivory trade ban or declining elephant numbers). It is widely assumed that a general trophy hunting ban or a specific ban on elephant trophy hunting (due to CITES decisions) would reduce local support for elephant conservation. This assumption ignores, however, that CBNRM in Kunene is based on the intrinsic value of wildlife, as the first conservation programmes were supported by local communities without deriving any benefits from wildlife.

This thesis demonstrates that values ascribed to elephants are influenced by both, the preservationist and the utilisationist positions in the international debate. Those values are strongly influenced by the state's utilisationist approach to conservation, as the economic benefits generated through elephant management were emphasised by residents of the Kunene Region. The concerns preservationists have about the sustainability of consumptive tourism activities seem to be less present in local perceptions as pointed out in Chapter 5. The findings indicate that the main factors of shaping human-elephant relations in the four conservancies I

visited are the economic income generated through trophy hunting and the costs that arise from living in elephant range. The emphasis on these two factors during the interviews suggests that the sustainability of trophy hunting is not a major concern to most people. Only the game guards seemed to be aware of this issue. In my pool of interviewees they were the only ones who considered the number of elephants as low. This might be related to their training and professional ability to count the actual number of elephants, while other residents can merely estimate and assume how many elephants they encounter. Therefore, their understanding of elephant population is based on subjective perceptions contrary to actual numbers. Nevertheless, the interviews with game guards also show that the monetary value is of major importance and that trophy hunting is by far the most lucrative source of income for conservancies.

In order to maintain a healthy elephant population and to guarantee a sustainable utilisation, it is crucial to take the impact of hunting on the social structure and behaviour of elephants into account. Additionally, general threats which consist of restricted migration routes and access to feeding areas as well as the impact of climate change should be considered when discussing the sustainability of trophy hunting in the Kunene Region, as the elephant numbers are low. Especially in areas that are inhabited by only a small number of elephants, it is very important to investigate local attitudes towards elephant conservation as conflicts might pose a higher threat to the small elephant population.

Although advocates of utilisation (e.g. MET) and preservation (e.g. NGOs like EHRA) have very different approaches when it comes to conservation measures, both parties have a common ground: the interest in maintaining Kunene's elephant population. As there is no way to completely avoid human-elephant conflicts, the focus is set on conflict mitigation. Therefore, both parties are working on strategies to prevent conflicts. One of the most important tools for conflict avoidance is the education of the local population (e.g. by NGOs) regarding elephant behaviour and how to react to it, especially in regions in which people did not encounter elephants when growing up. Furthermore, a better understanding of social structures and breeding behaviour can help to improve attitudes towards elephant conservation and maybe even strengthen non-use values. It is more likely that people will support conservation by non-use to retain the option to use it in future when they know about the complexity of their social structure and the imbalance that removing an animal from the herd can create. My interviews in Kunene indicate that the knowledge about elephants on the local level is derived from several sources and that people have started to use this knowledge when encountering elephants in order to avoid conflict.

In my introductory statement, I quoted one of the interviewees who said elephants are like cars in the same way that they can cause a lot of damage, but in the end you really have no other choice but to live with them. This reflects the attitude of most local people I encountered: Elephants are part of their environment and they somehow have to manage to coexist. The best

way to do that is to be knowledgeable about elephant behaviour so that damages cannot occur due to human misconduct. A major challenge for the future of elephant conservation will be to balance human-elephant conflicts with trophy hunting quotas while also taking the social structure of elephant herds into account and minimizing the damage trophy hunting has on the elephant population.

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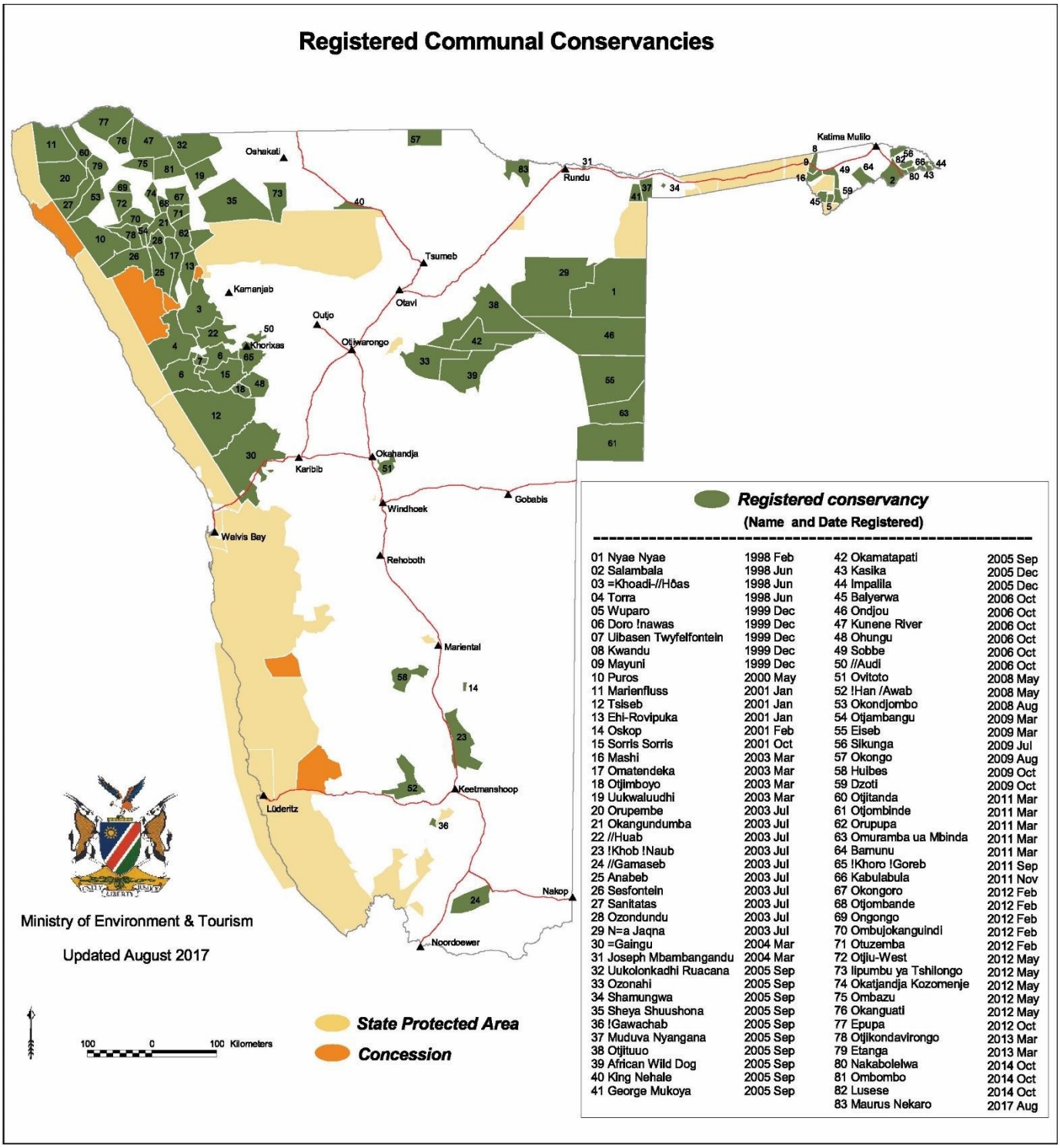
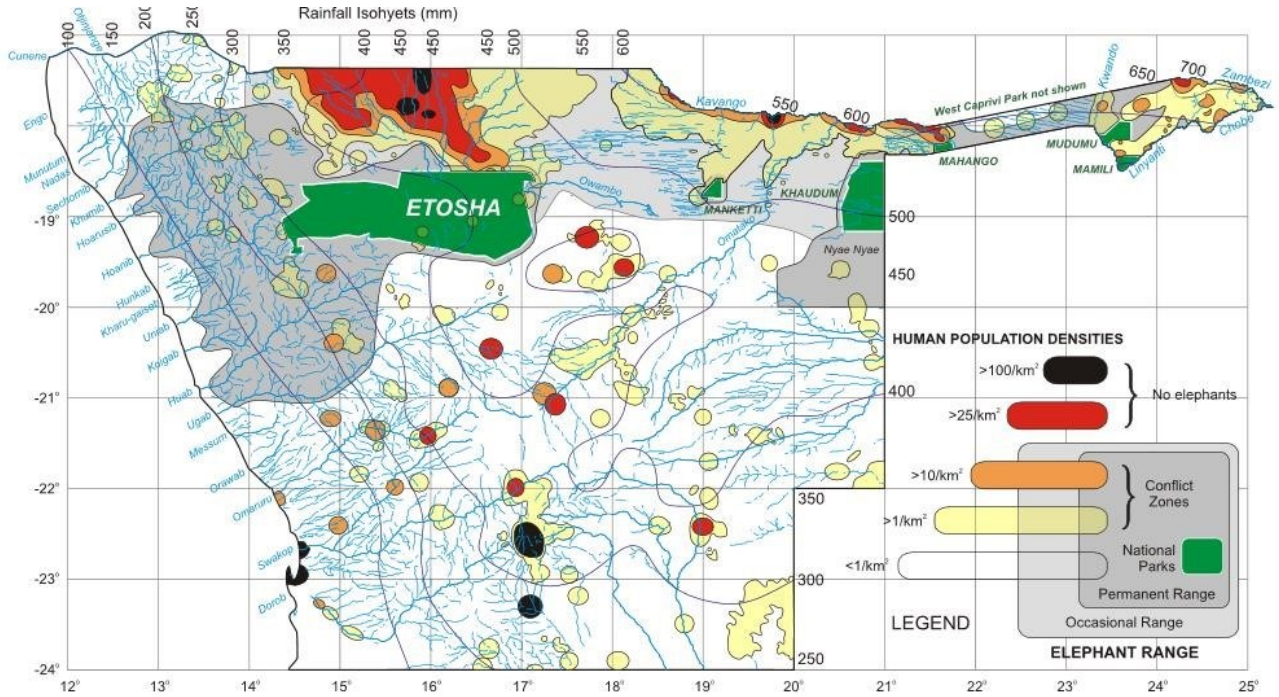
Appendix I: Communal conservancies in Namibia

Fieldwork conducted in: Omatendeka (17), Okangundumba (21), Anabeb (25), Ozondundu (28)



(Source: MET 2017, available from www.nacso.org.na/resources/map)

Appendix II: Elephant range in Namibia



(Source: Ministry of Environment and Tourism, Republic of Namibia 2007: SPECIES MANAGEMENT PLAN. Elephants. Loxodonta africana.)

Appendix III: Interview Data

Interviews in conservancies:

X1: Resident of Ozondundu conservancy
X2: Group Interview, Ozondundu
X3: Resident of Ozondundu conservancy
X4: Group Interview, Ozondundu
X5: Game Guard
X6: Game Guard
X7: Resident of Omatendeka Conservancy
X8: Rhino Ranger
X9: Game Guard
X10: Resident of Okangundumba Conservancy
X11: Game Guard
X12: Resident of Anabeb conservancy

Interviews with staff of NGOs:

X13 Hendrick Munembone, EHRA Director and PEACE Project Leader
X14 Eben-Ezer Tjiho, Cluster Coordinator (IRDNC)
X15 Rachel Harris, EHRA Managing Director

Meeting between a conservancy committee and a hunting venture

Informal conversations with wildlife conservation actors

Appendix IV: Societal values to elephants

Value	Definition	Relevance to elephants
Aesthetic	Appreciation through the senses	People enjoy observing elephants because of their size and power
Commercial	Importance for generating income	Non-consumptive use, such as tourism, and consumptive use, such as trophy hunting, use of meat, hides and ivory
Cultural	Importance as cultural symbols	Associated with power and royalty, and used as clan totems and names
Ecological	Role in contributing to ecosystem composition, structure and function	Valued for their role as ecosystem engineers or keystone species
Empathetic	Satisfaction from being able to emotionally relate to another species	General public empathise with elephants as intelligent, social and long-lived creatures
Existence	Sense of wellbeing from knowledge of their existence	Most South Africans have not seen an elephant in the wild but many still care what happens to them
Historical	Symbols of a past era	Nostalgic appreciation of elephants as symbols of 'wild Africa'. 'Big Five' status harks back to the days of the great game hunters and explorers
Recreational	Enjoyment of experience from recreational activities	Tourists enjoy the thrill of finding and observing elephants in the wild and experiences such as elephant-back safaris
Scientific	Importance for the advancement of knowledge and understanding	Great scientific interest in the complex challenge of solving the 'elephant problem'
Subsistence	Used for purposes of non- commercial consumption	Consumption of elephant meat or use of dung for medicinal purposes

(Source: adopted from Twine&Magome 2008, with reference to a South African study)