

The jumbo problem of living with elephants: Varying perspectives on human-elephant conflict in Chobe District, Botswana

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Abstract

Although elephants look like gentle giants, living with them is no small task. Elephants can cause injury to people and damage to property. In Chobe District, Botswana, where there are more elephants than people, these interactions occur with great frequency and can erode tolerance of elephants and broader conservation goals over time. Chobe District is undergoing rapid changes; development is putting pressure on wildlife movements throughout townships. With these changes, identifying ways for species to live together will be crucial to maintaining elephant population viability and human safety. This study utilizes semi-structured interviews and discourse analysis techniques to look across a wide variety of sectors at perspectives of the problems with human-elephant coexistence. How the act of living with elephants influences what kinds of solutions are proposed and carried out. Most participants see the problem as biophysical, a consequence of overlapping human and elephant habitat. A large proportion sees the relationships and motives of different actors as influencing the problem. Other participants identified issues with how decisions are made and carried out. This analysis argues for reconstructing a social context and decision-making process to identify common goals and work towards coexistence.

Introduction

In an age of rapid development, the challenge for conservation is to create space for wildlife without negatively impacting local communities. Elephant (*Loxodonta africana* Blumenbach, [Elephantidae]) management is a complex, value-based, policy problem. Since Botswana is home to over a third of the continent's savannah elephants, management decisions here have major consequences on the species as a whole (Chase et al. 2016). In Chobe District, Botswana, where there are more elephants than residents, the two species interact regularly. A low estimate of incidents of elephant damage in northern Botswana is 150 cases annually (Demotts & Hoon 2012). Both elephants and people can die in such encounters. Human development continues to encroach on elephant habitat

(Fig. 1.). In farming areas, elephants break down fences and enter fields to eat crops, often leaving the farmer with little for subsistence. In townships, elephants may trample a borehole or raid a garden. When conservation policies try to protect such charismatic yet dangerous species, all wildlife institutions must work together towards the common interest (Clark 2002).

This study identifies how various stakeholders involved in elephant management view human-elephant conflict in the context of wildlife management in Botswana. Management is complicated by several factors: the historical context of conservation (Parry & Campbell 1992), pressures of development (Adams et al. 2016), politics of the trophy hunting industry (Mbaiwa 2017), centralized control of natural resources (Adams 2016), and the present danger of living with elephants. Instit-

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Fig. 1. Slow for elephant crossing! Roads cut across elephant ranges, and elephants must cross to access food and water. Vehicle-elephant accidents occur and can be fatal for both elephants and people. Decisions for development have impacts on the physical environment, but also on how people relate to it, too. (Credit: S. Garvin).

utions from the non-profit, public, and private sectors play key roles in driving wildlife policies that affect people's ability to live with wildlife and the wildlife itself. The perspectives across institutions translate into various approaches for wildlife management that can have serious implications for the continued existence of elephants and the success of conservation in Northern Botswana.

Methods

The following methods are based on longstanding ethnographic practices (Longhurst 2003; Schen-shul et al. 1999). These practices allow for a context-specific approach to analyzing various perspectives on human-elephant conflict.

Study area

Botswana has over 130,000 elephants (Chase et al. 2016) and 2 million people in a country of 580,000 km². Chobe District (22,560 km²), in northeast Botswana, is made up of 70% protected areas (Adams 2016). Kasane and Kazungula are two townships with the largest human settlement in the

district (ibid). Chobe National Park, in northern Botswana is 11,700km² and is a prominent tourist attraction for the district (Botswana Tourism Organisation 2013). The park was established in 1968 and has one of the largest concentrations of wildlife in Africa, with 450 bird species and 19 antelope species (ibid). The tourism industry, which currently accounts for 10% of Botswana's GDP (Gupta 2013), attracts people from other parts of Southern Africa to Chobe. These migrants, many of whom have never lived with elephants before, are now interacting with them more frequently, leading to greater incidence of conflict (Mbaiwa 2011). Non-governmental institutions currently address this problem by educating community members on how to protect themselves and their personal property (Adams et al. 2016). The national government has also been involved with implementing mitigation strategies (Gupta 2013) and a compensation scheme to repay individuals for property damage (Sifuna 2009).

Data collection

From June–August 2016, data was collected in Chobe District in northern Botswana and in Gaborone, the nation's capital. A total of 64 semi-structured interviews were conducted. Interviews were guided by questions targeting the participants' experience with wildlife, their views of problems with wildlife management, current status of that problem, underlying causes, future predictions, and suggestions for addressing these problems. All participant information was kept confidential and anonymous. In addition, over the two months of fieldwork, Elephants Without Borders (EWB), a local non-governmental organization, was the focus of participant observation.

The following analysis utilizes the multi-method and contextual approach outlined by Wallace and Clark (2015) to undertake problem orientation. Problem orientation is a form of rationality that helps clarify each institution's goals, the current status of the problem (trends), socio-economic

and political factors (conditions), projected outcomes if no action is taken (projection), and realistic alternatives (Clark & Wallace 2015). It aims to find and address problems with consideration of the local context. This paper focuses on three elements of problem orientation: trends, projections, and alternatives. The interviews with participants in elephant management targeted their personal view and understanding of the challenges facing wildlife management. Problem orientation has been used to identify policy problems and suggest alternatives in cases of human-wildlife conflict, national parks, and several other contexts (Clark et al. 2002).

Results

Human-elephant conflict is a symptom of problems with wildlife management, changes in the biophysical landscape, and current governance structures. There are many participants involved in or affected by elephant management in northern Botswana. Fifteen government officials were interviewed (23.4%) including employees of the Department of Wildlife and National Parks (DWNP), the Department of Forestry and Range Resources, the Land Board, Parliament, the Department of Environmental Affairs, and local chiefs (termed *Kgosi*). Seventeen tourism professionals were interviewed (26.6%) including wildlife guides, safari operators, employees of Botswana Tourism Organization, lodge managers, and members of HATAB. Twenty non-governmental institutions were interviewed (31.2%) including independent researchers, research NGOs, development partners, international agreement secretariats, and research funding bodies. Three representatives from community based organizations (4.7%), Seboba Community Trust and Chobe Enclave Community Trust, were included in this study. Nine community members (14.6%), including long-term residents, members of IKOVA, commercial farmers, Peace Corps volunteers, and local news reporters were interviewed as well. For purposes of



Fig. 2. Samantha Garvin visiting a captive elephant herd, a tourist activity in Northern Botswana. The tourism industry is a stakeholder in elephant management in Botswana (*Credit: K. Landon*).

this analysis, the perspective of the central government of Botswana was derived from interviews with other participants and is a construct rather than a discrete entity.

Human-elephant interactions are a controversial and sensitive topic. All participants identified different methods for addressing conflict as well as accompanying policies. Table 1 highlights examples of different constructions of the problem using quotations from interviews. Whereas many participants focused on the physical problems of human and elephant interactions, many discussed the social dynamics that influence how wildlife is managed. Other participants pointed to the creation and implementation of policies that influence the efficacy of elephant management and conservation more broadly.

Biophysical problem

Many participants identified the issue of humans and elephants sharing overlapping habitat as the primary problem. Participants pointed to shifting elephant ranges, increasing wildlife populations, increasing numbers of residents, and the placement of settlements near to protected areas as key causes of conflict.

Table 1. Participants identified problems with human-wildlife conflict that can be classified into three different types of problems; biophysical, social, and decision-making. The anonymized quotations are from study participants to illustrate such perspectives.

Problem dimensions	What is the problem?	What might happen with status quo?	What should be done?
Biophysical	“There’s not enough land for both humans and elephants.”	“Eventually human population will kill off animals in the residential area.”	“Develop in homestead arrangements.”
Social	“People do not feel the wildlife belongs to them.”	“[Communities living with wildlife] are just going to give up at some stage. They’re just going to take matters into their own hands... I think it’s going to be hate killings.”	“If we had the rights, not the user rights, but the rights ... We will feel ownership.”
Decision-making	“We have excellent polices, but they’re never implemented.”	“The wildlife is using historic movement paths, but new development blocks them and then they become ‘problem animals’ rather than problematic development.”	“[Government officials] need to feel empowered to make decisions so they are motivated to work.”

Without changing the status quo, many participants predicted losses of human and elephant lives. These participants typically suggested physical and technical solutions to address this problem. Many suggested reintroducing trophy hunting, introducing elephant culls, fencing townships, moving settlements, or securing wildlife corridors (Fig. 3).

Social context problem

Many participants saw human-elephant conflict as a consequence of interactions between stakeholders. One of the main problems within the social context hinges on the relationships between government and other stakeholders. Since DWNP has the mandate for managing wildlife, the national parks, and community safety with regards to elephants, they are often blamed for the continuous problem of

human-elephant conflict. Many non-government participants identified lack of passion or motivation of wildlife officers as a cause of conflict. Many study participants identified close relationships between the tourism industry and decision-makers in government as drivers for tourism centered wildlife management decisions. Some participants pointed to the failure of tourism to share economic benefits with community members as the problem.

Participants with these perspectives typically forecasted growing resentment between stakeholders leading to more illegal natural resource use, poaching, or environmental degradation. In order to avoid this fate, participants suggested changes to address the element of the social context they viewed as most problematic. For instance, if the stakeholder identified problems in benefit transfers

to communities, he or she suggested higher degrees of revenue sharing to communities.

Decision-making problem

Several participants saw human-elephant conflict as a result of poor implementation of policies. Participants from the non-profit and private sectors identified breakdowns in the policy formation and implementation processes as the primary cause of continuous elephant-human interactions. However, they see the shortcomings of the DWNP as signs of larger issues between government and people. Specific policies were often identified as exacerbating tension; the compensation for wildlife damage program creates expectations that the government can fully repay farmers and ranchers for the loss of their crops or cattle (Fig. 3). A formal process exists for consultation from the traditional governance structure of the *kgotla*, a town hall; however, many feel this formal process is largely ornamental. Powerful individuals within central government make decisions. The hunting ban of 2013, enacted by individuals in the highest levels of government, still impacts stakeholders today (Mbaiwa 2017).

The participants who identified decision-making problems projected increased poaching and increased conflict. To address these problems, participants suggested solutions such as increasing communication between central government and district-level wildlife officers. Other participants suggested alternatives to the *kgotla* as forums for consultation. The solutions proposed were usually addressing the specific elements of the decision process that they saw as flawed.

Discussion

How participants defined the problem of human-elephant conflict led them to suggest similar future scenarios but propose different interventions.

Current trends in elephant populations are influencing people's perception of the problem as biophysical. Elephant populations across Africa are

in decline, but in Botswana, the population has remained stable for the past 5 years (Chase 2013). Hunting and poaching pressures from Namibia, Angola, Zimbabwe, and Zambia influence elephant behavior, keeping them close to or within Botswana's borders (Adams 2016). Elephants in Chobe District move regularly between Chobe National Park, the Forest Reserves, and the Chobe River in pursuit of water, shade, and forage. The exact paths elephants follow are learned from their family groups. When elephants encounter new developments in their paths, they can become confused, causing them to wander into residential areas. The solutions proposed by these participants reflect a desire to minimize the risk of elephant encounters. Implementing these solutions may reduce incidences temporarily, but they may not substantially transform conflict.

The underlying causes for the social context problems are not monolithic. Individual stakeholders interact with differing values, expectations, and worldviews. Whether stakeholders seek money for community projects, recognition of authority, safety for themselves, or respect, these values impact how they approach the problems of human-wildlife coexistence. All of these individual values also interact with larger global trends.

These interactions are shaped by large conditioning factors. For instance, the influence of the tourism industry on decision-making can be linked to larger trends of neo-liberalism of nature (Duffy & Moore 2010). The tourism industry transforms human interaction and experience with nature into a marketable product. The economic success of eco-tourism drives government funding and power to the tourism sector. At the same time modernization, or changes from traditional livelihoods to 'new and modern' ways of life (Pi-Sunyer 1989) is happening throughout Botswana. Modernization in northern Botswana is being driven slowly by the tourism industry (Mbaiwa 2011). Traditional lifestyle and culture may be rejected because they can be seen as preventing development and acquisition Western values (ibid). Living with wildlife



Fig. 3. An elephant uses a corridor to cross from a protected area through a community area to access water. This is one alternative to development that addresses the biophysical elements of the problem (*Credit: S. Garvin*).

in these more rural settings requires cautious behavior; such a lifestyle is not necessary in animal-free urban centers such as Gaborone.

These relationships between stakeholders are influenced by history, as well. Citizens' high expectations of government have been influenced by Botswana's welfare state regime (Gupta 2013). Social safety nets can provide farmers with free seeds to plant, loans for food security to poor families, a tractor that can be leased for plowing, and elderly pensions. Furthermore, DWNP provides compensation for wildlife caused crop and property damage. Many people see the government as the sole owner and beneficiary of wildlife (Adams 2016), and as a result people expect the government to control the wildlife's behavior. In the

1990s, Community Based Natural Resource Management (CBNRM) policy was designed specifically to distribute economic benefits from natural resources to communities (Mbaiwa 2016). However, for the Chobe Enclave Conservation Trust in Chobe District, the main revenue stream for CBNRM came from the trophy hunting industry, which was abruptly halted during the hunting ban in 2013. With this cut to funds, community works projects have been unable to continue. As a result, some study participants feel that local people no longer benefit from living with wildlife.

The decision-making context is similarly complex. One underlying factor that affects this process is the centralization of authority over wildlife and natural resources. The physical distance between Kasane and Gaborone (over 925km by car) and poor communication infrastructure contribute to the centralized decision-making (Adams 2016). Formal chains for policy formation and implementation are ignored possibly because decision-making is incredibly slow. Many participants similarly stated that the central government does not trust the districts to manage natural resources more directly. However, the decision makers trust the individuals that are closest to them. All of these factors impact the others so that the decision-making process will require serious reform. Furthermore, the effects of this decision process feed into the social relationships.

Recommendations

The following recommendations are aimed at addressing the biophysical, social context, and decision-making problem orientations.

1. Decision-makers and researchers should adopt a problem-oriented approach to management. Clarifying exactly what the problem is will be helpful to fully analyze and understand problems before proposing solutions. In this way, wildlife managers can target specific actions that can have the most impact, and move people towards the com-

mon interest.

2. Appropriate government organizations and participants should integrate land use plans. This is one way to address the biophysical components of elephant management. Many participants identified this alternative, and yet, development is happening haphazardly without control or stakeholder consensus.
3. Policies should be implemented in order to improve upon the tension between various institutions. Capacity should be built at the local district level of government. This should happen with increased government funding to DWNP, increased numbers of district wildlife officers, and further training on how to manage elephants as well as how to keep Chobe residents safe. Changing officials' placements based on interest may also be beneficial to attract wildlife officers familiar with and passionate about wildlife to work in Chobe District.

These recommendations require a shift in resource allocation, especially when increasing the capacity of district government offices. A concerted effort from all parties to address these problems directly will improve the efficiency of policy implementation in the long run.

Conclusion

This assessment of problem orientation suggests that the problems of human-elephant conflict are a culmination of biophysical, social and decision-making contexts. Currently there is no agreement on exactly what the problem is surrounding human-wildlife conflict. It is evident that this conflict is not happening inside a vacuum. How participants interact with each other impacts how they perceive the problem, and defining a problem involves the social significance of a given situation. The consequences of these actions affect the ability of people and wildlife to coexist. Even though participants

identified different problems, most acknowledged the impacts of decisions on wildlife and the environment. By focusing attention on certain issues, participants are declaring what is at stake. The proposed recommendations here address the major aspects of the problem, but will require a concerted effort to make meaningful progress.

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Fig. 4. Cattle illegally roam through a national park, and interact with elephants at a river bank, demonstrating the competing needs of people and wildlife, as well as lack of implementation of park regulations. (Credit: S. Garvin).

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