# Stakeholder attitudes towards wildlife-based land use in Namibia's Kunene Region

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**Abstract**

African rangeland systems are characterized by competing resource use for livestock farming and wildlife conservation. In Namibia's rangeland savannahs, cattle farming for commercial and subsistence purposes is common, shaping the land use system of the country's north. Local cattle stocking rates increased over the past decades and triggered ecosystem degradation that became visible in the last drought-stricken years. Cattle was lost, meat prices dropped and livelihoods were threatened. It is assumed that current land use activities are pushing the rangeland ecosystem towards ecological tipping points. Alternative approaches to use the scarce resources of rangelands in a more sustainable way may be centred on wildlife-based land use strategies. Against this background, we investigate the attitudes of stakeholders towards wildlife in order to carve out current barriers for upscaling wildlife-based land use strategies. We conducted stakeholder mapping based on the results of a larger qualitative survey, which included a workshop, individual interviews and a participatory observation. Our results indicate that the reasons for stakeholders being hesitant towards wildlife-based strategies can be clustered around (i) cultural and traditional practices, (ii) unfavourable market conditions and (iii) negative connotations of certain wildlife utilization practices. The study results contribute to the identification of entry points for policies that seek to support wildlife-based strategies.

## Introduction

Rangeland systems are a typical feature of African landscapes and important as natural habitats and for agricultural utilization (Du Toit *et al.,* 2012). However, competing uses of rangelands for nature conservation and in particular livestock farming result in resource competition and thus declining wildlife numbers (Holechek and Valdez 2018). The dominance of livestock farming in certain parts of Namibia, for instance, led to overgrazing and land degradation (Menestrey Schwieger and Mbidzo 2020) which is particularly critical during drought periods as in the past years (Blamey *et al.,* 2018). These degradation processes may potentially lead to ecological tipping points that are regarded as critical threshold at which the rangeland system switches to a new stable state with new dominant but less beneficial plant communities (Bestelmeyer *et al.,* 2017). It is an open question, if key features of the rangeland system that support wildlife and agricultural utilization are maintained after this transition

One potential strategy to prevent rangeland degradation and hence the emergence of tipping points is seen in wildlife-based management strategies. The diversity of local endemic herbivore species is considered to be a key element for sustainable rangeland ecosystems as herbivores have varying feeding preferences and can hence make use of more vegetation types than conventional livestock species (Smet and Ward 2005). Wildlife could thus be considered a climate-change proof land use strategy for the future. In this regard, wildlife-based land uses are supported by the Namibian government since decades. The country is one of the few worldwide, in which people are legally eligible to utilize wildlife resources. For instance, farmers can generate income from wildlife species by offering photo-tourism or hunting experiences as well as selling wildlife meat products (GRN, 1975, 1996). However, these benefits also come with disadvantages as human-wildlife interactions can cause conflicts (MET/NACSO, 2018a). This

makes it difficult for certain stakeholders to tolerate wildlife as conventional livelihoods may not be compatible with their occurrence.

In this study, we investigate the attitudes of stakeholders towards wildlife in part of Namibia's Kunene Region. We consider this as a relevant first step to identify and understand current barriers for further expansion of wildlife-based management strategies. We make use of qualitative social science methods as presented in the following section, to map stakeholder attitudes and thus shed light on current barriers for people to adopt forms of wildlife-based land uses.

## Materials and Methods

For our study, we chose an area located in the Kunene Region in Namibia as both conventional cattle farming practices and wildlife-based management strategies come together. The rangeland south-west of Etosha National Park (ENP) is characterized by a tree and shrub savannah biome with an average rainfall of about 100 to 350 mm per year (Mendelsohn *et al.,* 2003). It is characterized by frequent droughts as being observed within the last years (Blamey *et al.,* 2018), and uncertainties with regard to climate-change induced precipitation patterns (Niang *et al.,* 2014). These circumstances are already pressuring the agricultural sector and causing uncertainties for long-term land management options (Reid *et al.,* 2008; Wilhite *et al.,* 2014). Within the area of interest, natural resources are used in different ways: Livestock farming with cattle, sheep and goats is the conventional practice and applied by most of the land users of communal and commercial farmers (Kraus 2020). Besides, wildlife-based management options have gained in popularity over the last decades as they were supported by governmental policies (MET 2007). In the study area, those strategies focus on tourism that offer photo safaris and hunting experiences (Kraus 2020). In this regard, income is generated through tourism as well as meat production. Furthermore, different land tenure systems prevail: While freehold farms are privately owned, communal conservancies are established on state land (MET/NACSO 2018b).

We made use of the qualitative results of a larger survey which focused on conflicts that emerge from human-wildlife interactions and which included a project workshop, individual interviews and a participatory observation (see Luetkemeier *et al.,* in prep. for details on the methodology). We screened the qualitative data to obtain insights into stakeholder attitudes towards wildlife and to carve out barriers that hinder actors to follow wildlife-based strategies. In order to map stakeholder attitudes, we compiled a list with more than 50 potential stakeholders that have an influence on how wildlife is utilized in Namibia. This list includes both directly involved individuals such as communal and freehold land users as well as indirectly involved actors such as businesses (e.g., supermarkets) and international tourists. The stakeholder attitudes were mapped according to the following three questions:

"*Would the stakeholder be in favour of an expansion or intensification of...*

- *...wildlife conservation in general,*
- *...consumptive use of wildlife (encompassing all legal activities that result in killing wildlife),*
- *...or conventional livestock farming?*"

Each stakeholder was mapped with respect to the three questions on a scale from -2 (not in favour) to 2 (in favour). Four researchers of the project team conducted this mapping task individually, having the qualitative material and overall experiences in human-wildlife interactions in Namibia as background information. Their individual mapping results were finally averaged and again grouped into seven stakeholder groups to be depicted on a 3D-chart for better illustration.

## Results

In order to provide a more tangible picture on the stakeholder attitudes, the actors were categorized into seven distinct groups. Figure 1 provides a visual representation of how we evaluated the qualitative interview material and mapped the attitudes of stakeholders towards (i) the expansion of conservation measures, (ii) consumptive use of wildlife and (iii) conventional livestock farming.

Starting in the upper-left corner of Figure 1, the groups 'Agriculture' and 'Trade & Commerce' rank high in favour of an expansion of conventional livestock farming and at the same time remain rather passive when it comes to ideas to further expand current wildlife conservation activities. This does not mean that these actors are against conservation in general; it is rather assumed based on the available empirical information that they are content not to expand activities in this direction due to their own business objectives. With regard to consumptive use activities, both groups are rather neutral with large in-group heterogeneity. While some individual stakeholders of the group 'Agriculture', for instance, are considered to value the option for predator control (positive aspect), others are regarded to consider it an undesired

side-effect as it promotes a shift to wildlife-based land uses in a livestock-dominated area (negative aspect).

Moving on to the right-hand side of Figure 1, the two groups of 'Media' and 'Government' score higher on the conservation axis as compared to the aforementioned groups. This means, the actors of these two groups are considered to prefer an expansion of wildlife conservation measures. While we see the governmental bodies to also favour conventional livestock farming (higher on y-axis), specifically due to its role for the Namibian economy, the 'Media' actors are not regarded to share this positive attitude to such an extent. Here, it is important to emphasize the exclusion of social media providers, as these rather act as platforms and not intentionally as opinion leaders. When it comes to consumptive use, the 'Media' remains passive (e.g. due to moral implications), while actors of the 'Government' group partly support activities in this direction (e.g. due to conservation benefits and economic returns).

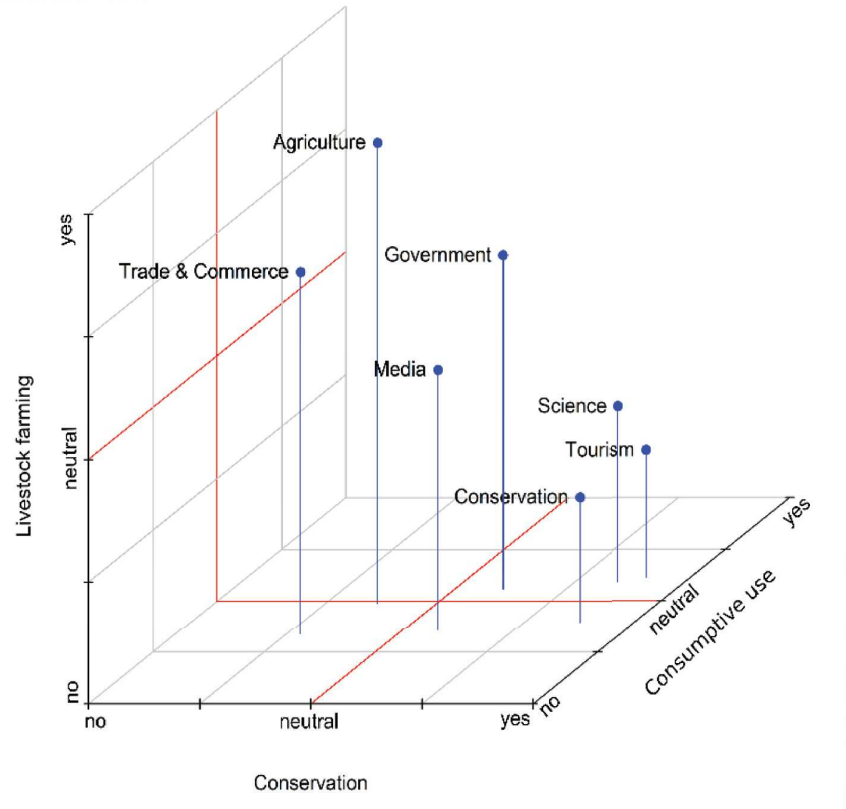


**Figure 1:** Stakeholder attitudes towards an expansion of conventional livestock farming (y-axis), conservation (x-axis) and consumptive use (z-axis), aggregated into major stakeholder groups.

The two groups 'Conservation' and 'Tourism' score high on the conservation axis and low on the livestock-farming axis. Both groups are considered to support wildlife-based management practices, while the essential difference between them can be found in their appreciation of consumptive use activities. The stakeholders within the group 'Science' are considered as supporters of conservation measures, while they are less in favour of conventional livestock farming. This group also sees potential in consumptive use activities, especially for conservation purposes.

**Discussion**

Our stakeholder mapping revealed clear differences in attitudes towards wildlife. For wildlife-based strategies to be accepted by Namibian stakeholders as a climate-proof strategy to prevent critical ecological tipping points in savannah rangelands, certain barriers especially in the sectors of agriculture, trade and commerce have to be addressed. Based on our stakeholder mapping procedure and the qualitative interview results, we would like to carve out three major barriers for wildlife-based strategies that can be found in (i) cultural and traditional practices, (ii) unfavourable market conditions and (iii) negative connotations of certain wildlife utilization practices.

First, actors from the agricultural sector remain hesitant in adopting wildlife-based management

strategies partly for traditional reasons. Some commercial and communal farmers hold on the conviction of livestock farming as an obligation to maintain tradition and reproduce cultural knowledge. They consider this practice as an identity-forming activity. While for freehold farmers the core reference point seems to be the obligation to continue family business, communal farmers consider large herds of livestock as a form of wealth and social status.

Second, actors from the sectors of 'Agriculture' and 'Trade and Commerce' see financial obstacles in market related issues. The financial burden to shift agricultural practices away from livestock farming is considered excessive in combination with limited revenue prospects due to an increasing competition for tourists among wildlife farmers. In addition, consumer behaviour is considered a barrier as demand for wildlife products remains low and beef demand is considered constant, despite recent price variations. In this context, the European Union is a key reference point as an important export market where consumer preferences still prefer beef over wildlife products.

Third, the respondents indicated that an overall negative perception of certain consumptive wildlife use practices is prevalent in the public discourse. Hunting activities are seen critical by a range of actors such as non-governmental organizations in the environmental sector and international tourists who primarily come for photo tourism activities.

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