

# Reported Conflict between Pastoralists and Wildlife around the Ruaha National Park, Tanzania

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## Introduction

Protected areas are vital for conservation, but are often of insufficient size to contain viable populations of very wide-ranging species, such as cheetahs (*Acinonyx jubatus*), African wild dogs (*Lycaon pictus*) and other large carnivores (Woodroffe & Ginsberg, 1998). Consequently, these animals often stray outside reserve boundaries onto adjacent unprotected land, where they frequently cause intense conflict with people. They can impose significant costs on reserve-adjacent communities in a variety of ways, such as by killing livestock, and these costs are felt particularly acutely in poor communities, where even relatively small numbers of stock losses can represent a significant proportion of a household's annual income (Oli et al. 1994). Moreover, the presence of large carnivores can result in 'opportunity costs' for local people, where they have to invest time and money in guarding livestock rather than working or attending school.

The intensity of such conflict often results in local communities attempting to control the numbers of animals viewed as problematic, and this is frequently done using lethal means, such as poisoning or shooting. This can have a serious impact on the population of the species concerned: human-wildlife conflict has played a significant role in the range contractions and population crashes of various species, and has even been implicated in the global extinctions of some species (Woodroffe et al. 2005). In Africa, conflict with humans has played a key role in the decline of cheetahs, lions (*Panthera leo*) and African wild dogs, and it has been identified as one of the most pressing conservation issues facing large African carnivores to-

day (Ray et al. 2005). Addressing such conflict is therefore clearly important both for conservation and for the livelihoods of people living close to reserves, but developing effective resolution strategies hinges upon a detailed understanding of the real causes of conflict, so this is a vital step towards successful conflict mitigation.

## Methods

This study investigated attitudes of 60 Maasai and Barabaig pastoralists towards wildlife in areas close to the Ruaha National Park, Tanzania, with particular emphasis on five focal carnivore species, namely cheetahs, African wild dogs, lions, leopards (*Panthera pardus*) and spotted hyaenas (*Crocuta crocuta*). Attitudes were examined using a semi-structured questionnaire administered by the author and/or a Tanzanian research assistant at the respondent's household. Levels of conflict were assessed by showing respondents pictures of various species and asking them to rank them as posing a big problem, a small problem or no problem in the area around their household. Responses were then assessed in relation to various socio-economic factors and reported depredation levels.

## Results

Pastoralists reported significant problems with wild animals, particularly large carnivores, mainly because of the threat they posed to cattle. Respondents reported a low level of retaliatory killing, but a closer examination of the reasons behind this suggested it was predominantly due to circumstantial constraints rather than innate tolerance.

Wealth (measured through stock holdings) and the proportion of cattle losses attributed to predators emerged as the most important determinants of conflict examined: respondents were more tolerant if they were wealthier and had suffered less depredation. There was some inter-tribal variation in tolerance, with the Barabaig apparently more tolerant of large carnivores than the Maasai, but this was probably due to the greater wealth of the Barabaig interviewees. Despite their close proximity to it, people knew little of the Ruaha National Park, had received little outreach from Park personnel and received few benefits from its presence.

As greater wealth and lower depredation rates were both important factors affecting attitudes towards carnivores, improved livestock husbandry could be an important aspect of conflict resolution, as it would address both issues. However, successful conflict mitigation will not only depend upon reducing depredation, but also by improving the cost-benefit ratio of wildlife presence and providing direct, relevant benefits from conservation. Implementing effective conflict resolution schemes which address these factors should have significant benefits for both human and wildlife populations on the edges of protected areas.

## References

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