Abstract

Increasing tension between human demands and ecosystem needs force humans and wildlife into closer contact to share limited resources. In addition, global environmental changes amplify the need for wildlife to move between different habitats. We investigated the interaction between local communities and elephants in Mvomero district in Tanzania using surveys in 150 households and discussions with 59 members. The initial results suggest a changing relationship between people and elephants, reflected in the perception and attitudes resulting from their negative experiences especially over the last 5 years. Impacts like crop raiding and trampling, water facility damage, property damage, difficult and fear to attend to daily activities and for children going to school for fear of being attacked were on the foreground of the negative perception and attitudes. The determinants of the changing relationship were identified as the level of livelihood vulnerability, food security, participation in conservation activities, benefits from elephants, compensation, institutional capacity to respond to elephant encounters and individual attributes (values, beliefs). Ecological determinants included modification of elephant habitats (encroachment of human activities in elephant corridors, elephant habituation to mitigation measures, elephant change in food preference, food and water availability). A sharp divide characterized people elephant relationship-reflected in the question of values and ownership. Almost all community members ascribed to elephants as “the (government’s) animals.” Although the attitudes and perception are manifested at individual level, they shape and are shaped by group, community and institutional attributes. These social ecological factors interact at multiple levels and are characterized by feedbacks that can improve or worsen people-elephant interaction depending on their nature.

Results

Figure 2: Conceptual framework for analyzing social-ecological systems and human-wildlife interaction (adapted from Lischka et al., 2018)

Methodology

Figure 1: A map showing locations of the study districts, with nearby protected areas

- We selected three districts with high human-elephant interaction in Morogoro region, Tanzania. These are historically crossed by a wildlife dispersal/corridor. So far we have collected data from Mvomero in 3 selected villages: Meleta, Mingo and Lubungo.
- For each village, a total of 50 households were interviewed. In addition, a focus group with a total of 59 members were engaged about the overall experiences living with elephants in these villages. Experts’ opinion was sought from the district game officer, district community development officer, district land planning officer and district agricultural officer.
- Open Data Kit was a tool used to collect data. Data was analyzed through Statistical Package for Social Science (SPSS) and Social-Ecological System Framework.

Conclusion

- Social ecological factors interact at multiple levels to influence human-elephant relationship and are characterized by feedbacks.
- Women and Elders are disproportionately affected by HEC.
- Opportunities for coexistence depend on the deliberate efforts by government to secure local communities livelihoods, reducing their vulnerabilities and hence increase their tolerance levels towards elephants.
- Land-use planning is potentially an important tool for monitoring space use across shared landscapes.

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Key references