

Progress Report

Sustainable Ecotourism and Conservation of Threatened Harrison's Giant Mastiff Bat at Mt Suswa Conservancy, Kenya



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Reported by: David Wechuli

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Summary

Bats are essential in maintaining ecological processes and providing valuable services for human health and well-being (Kunz et al., 2011). The Harrison's Giant Mastiff Bat (*Otomops harrisoni*) is currently listed as Vulnerable on the IUCN Red List and therefore requires maximum protection. It meets the criteria for this designation because there have been extreme population declines located at two of its roosts (Mount Suswa and Ithundu Caves). The globally Vulnerable Harrison's Giant Mastiff Bat the volcanic cave roosts of Mt Suswa Conservancy, Kenya (1° 10.37'S, 36° 20.85'E). Crucial maternity colonies are endangered by expanding ecotourism and human disturbance in the forests (Jones et al., 2009; Sherwin et al., 2013). This project sought to establish how bats use the caves to improve the management of the cave systems while promoting sustainable ecotourism and roost protection. We engaged communities to promote the protection and restoration of local forests as foraging habitats for bats and for climate change mitigation through training and education awareness programs.

Objectives

This project, in partnership with the Mt Suswa Conservancy and the Angaza Vijiji-Community Based Organization, a) documented major threats that the Harrison's Giant Mastiff Bat and their roosting caves face. The threats will be used to assess how land-use changes are affecting these natural habitats and advise on how to mitigate any potential negative effects b) engage communities in tree planting exercise to promote and catalyze protection and restoration of local forests as foraging habitat for bats and c) educate local farmers and pastoralists on roost conservation. Develop the action plan for cave management.

Project site

The Mt Suswa Conservancy (1° 10.37'S, 36° 20.85'E) is an indigenous community organization that manages over 5000 hectares. The Conservancy is a popular tourist destination and a hotspot for bats and other biodiversity. Mt Suswa, is a spectacular mountain with a unique 12 km² double crater system in Kenya's Rift Valley. The lower slope of the mountain is well-endowed with the montane forest habitat and cave roosts for bats and other wildlife. More than 10,000 safari visitors come for hiking, camping, wildlife viewing and cave exploration, annually. The Conservancy is however increasingly affected by ever-increasing spiral of forest loss and habitat degradation resulting from human appropriation of land for agricultural expansion, settlement and cattle grazing and, uncontrolled visitation to the bat caves. Over time, the effect of habitat degradation could be deleterious to the survival bats and other wildlife.

The activities conducted

(a). Data collection involved recording echolocation calls, using SM4 bat detectors (Wildlife Acoustics, Inc., Massachusetts, USA) near caves and the surrounding habitats in the Conservancy

(b). We Identified and documented human activities (Fig. 2) that the species and their roosting caves face from agricultural, tourism and other socio-economical activities.



Figure 1: Burning, and sale of Charcoal in market center

c). We assessed the land-use changes on natural habitats and implemented measures to mitigate any potential negative effects. Logging of trees for timber and building material was the major destructive human activities. As a result, we established a tree nursery to raise seedling, in collaboration with community members, notably the youth. Different groups, including schools were involved in the tree planting activities to restore degraded sites within the conservancy and the adjoining areas (Fig 2).



Figure 2: Tree planting exercise where school children were involved

(c) Awareness was carried out through consultative meetings, printed information as posters, and t-shirts, based on the research findings to demystify folklores about bats and to highlight their importance in ecosystems.

d) Educated local farmers, pastoralists and school pupils on roost conservation. We trained local guides as part of a robust education and awareness to enhance messages about the conservation and benefits of our target species and to increase visitation to the Conservancy.

e) Our initial idea was to rehabilitate cave entrances by strategically placing gates and educational signage along paths to deter unauthorized entry. The proposal was reconsidered due to a conflict of interest between members of the Narok and Kajiado communities on land ownership. We resorted to hiring one guard to protect the cave entrances.

f) We planned and held a workshop in collaboration with Mt Suswa Conservancy (MSC), Maasai Mara University, Angaza Vijiji-Community based organization, and East Africa speleological caving group, as well as a volunteer group, to develop an action plan for the management of caves at Mt Suswa Conservancy (Fig 3). We are now completing the report, which will be discussed with relevant parties before being made public.



Figure 3: A group of stakeholders during the workshop to develop an action plan

d) Next steps

- ❖ We will map additional caves in the Conservancy and determine which ones are a home to Harrison's giant mastiff bats.
- ❖ Tree planting exercise will continue in different sites within and adjoining areas of the Conservancy.
- ❖ Carry out another awareness campaign meeting in rural community
- ❖ Hold another session/workshop to finish the formulation of an action plan based on priorities and strategic approaches.
- ❖ Publication of this initiative in a journal