WYSS ACADEMY FOR NATURE

SEMI-CIRCULAR BUNDS AND COMMUNITY-BASED CONSERVATION AT THE NAIBUNGA COMMUNITY CONSERVANCY, LAIKIPIA COUNTY, NORTHERN KENYA

Key highlights from the technical report of dry and wet season biodiversity and socioecological assessments of local livelihoods.

A team of experts from The University of Nairobi, National Museums of Kenya, Technical University of Kenya and Directorate of Resource Surveys and Remote Sensing, in conjunction with the Wyss Academy for Nature, undertook dry and wet season biodiversity and socioecological assessments of local livelihoods at the Naibunga Community Conservancy, Laikipia County, northern Kenya in July/August 2023 and April 2024 respectively.

Training was given to members of local women groups including but not limited to Twiga mamas, Chui mamas, wazee (elders) group, Balozi, Naisulu and Green Earth Warriors youth groups on various social and ecological aspects such as governance, adopting sustainable livelihood strategies, and monitoring key local natural resources (including habitat restoration through the use of semi-circular bunds). In addition, a baseline dry and wet season biodiversity inventory for the area was undertaken by various taxon experts (plants, mushrooms, birds, mammals, invertebrates, reptiles and amphibians).

Keep a close eye

Annual biodiversity monitoring during wet and dry seasons in the Naibunga Community Conservancy, in areas with and without semi-circular bunds, is critical. These periodic assessments are useful to document changes in vegetation structure and composition, water distribution, and dynamics in the occurrence and distribution of key animal species.

Community goodwill must be accompanied by extensive wildlife education and outreach

Focus group discussions (FGDs) held with elders, women, and local youth groups revealed human-wildlife conflict as a cross-cutting issue. Even with the evident community goodwill for coexistence with wildlife, extensive education and outreach is much needed to build a solid foundation for participatory mitigation approaches to human-wildlife conflict in the Naibunga Conservancy.

3.

Skills-building for land restoration using semi-circular bunds

Community members received best-practice training on how and where to construct the semi-circular bunds for efficient rainwater utilization. By harnessing runoff and increasing soil moisture, the semi-circular bunds create a conducive microclimate for increased plant diversity.

Mushroom farming for improved nutrition and livelihoods

4.

47 mushrooms species were collected in the Naibunga Conservancy landscape, with some species being potentially new to science. Community adoption of mushroom farming (in particular using elephant dung as a substrate) provides an incentive for environmental conservation, which contributes to mitigation of human-wildlife conflict while providing a reliable source of income and livelihood.

An abundant insect population

5.

A whopping 646 invertebrate species were recorded, including termites, ants, bees, wasps, and beetles. These insects are highly sensitive to changes in their environment, and their abundance in an ecosystem reflects the availability of their food sources, making them good indicators of ecosystem health. Additionally, their diversity and abundance may indicate how well sites have recovered within a region.

6.

Endangered and critically endangered species spotted!

192 bird species were recorded, among them endangered and critically endangered birds of prey (raptors). Endangered species included the Lappet-faced Vulture, Martial Eagle, and Secretary bird; while critically endangered species included the Hooded Vulture, Rüppell's Vulture and the White-backed Vulture.

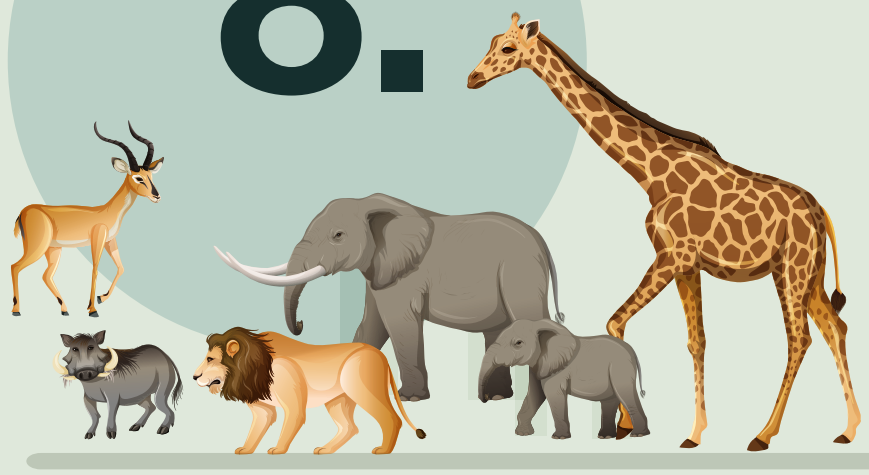
7.

A refuge from the harsh sun

Many reptile and amphibian species were observed to utilize the shade and/or refuge offered by semi-circular bunds. Amphibians and reptiles are sensitive bio-indicators of the impact of human activities such as overcultivation, over-grazing, deforestation and degradation of rangelands.

8.

Mammals rule



72 mammal species were recorded. Despite being identified as the most prone to conflict with humans during focus group discussions, mammals play vital roles such as shaping regional and global ecosystems.

9.

Grass regenerates

Grass is the staple food for people, livestock and wild animals, and the main source of energy. The semi-circular bunds created a microclimate for the establishment of the reseeded grass species *Cenchrus* and the *Eragrostis superba* the Maasai love grass and enhanced regeneration of local annuals and perennials. There was higher diversity of herbs within the bunds that could be attributed to enhanced soil moisture from trapped runoff.