Project Update: January 2021

Introduction

Lake Kamnarok is located in Kerio Valley, Kenya. The Valley sits at 1,000m above sea level and is formed by a long, narrow strip of approximately 80 km and 10 km wide.

This dispersal area is an ancient corridor utilised by over 360 African elephants (*Loxodonta africana*). It is one of the largest remaining elephant ranges in Kenya covering Baringo, Elgeyo Marakwet, West Pokot and Turkana Counties.

Despite being a core water point and a refuge for the elephants in these ranges, the lake is under threat from land degradation due to human and topographic factors. The degradation has caused siltation in the lake making it difficult for elephants to drink water and bath in the lake.



Land Degradation near Lake Kamnarok in Kerio Valley-Kenya (© Johnson Kiprop)

This project aims to combat land degradation and siltation in the lake to enhance habitat conditions for elephants and promote the recovery of threatened species, inter alia through:

- a) Education: To help farmers understand how human activities affect soil, water and elephants and ensure a thorough recognition of the interrelationships between, land-use, soil-water and slope of terrain.
- b) Establishing eco-clubs in schools: As a platform to demonstrate the value of elephants among young scholars and encourage them to get outdoors, connect with nature, and celebrate variety of flora, fauna and habitats on their doorsteps.

The Causes of Land degradation

Human Encroachment

Human encroachment into the wetland ecosystem is the greatest threat to its existence.

The study has established that as locals expand their agricultural activities, they encroach into the natural habitats around the wetland set aside for the protection and conservation of biodiversity.

In particular, shores of the lake where elephants drink water, bath and play have been affected by human activities such as encroachment, and conversion into agricultural lands.



Human activities have accelerated soil erosion and increased siltation in the lake and altered habitat conditions for elephants. (© Johnson Kiprop)

Catchment Destruction

Catchment degradation is another threat to the wetland ecosystem.

The study has established that the destruction is closely associated with activities of communities residing in and around the catchment's areas such as collection of firewood, edible wild fruits, medicinal plants, overstocking and overgrazing.

Illegal logging for charcoal production is the greatest threat. The activity produces high carbon emissions, is destructive and the digging of sand to cover the burning wood loosens the soil and accelerates land degradation. It is a major contributory factor to land degradation, habitat destruction and loss of biodiversity.

This has degraded the catchment lands and limited their capacity to supply ecosystem services to people and wildlife. For instance, catchment areas' ability to regulate river flows, mitigate floods, recharge ground water, and prevent land degradation and siltation has been adversely impacted.



Charcoal burning activity involves illegal logging, is destructive and the digging of sand to cover the burning wood loosens the soil and accelerates land degradation.

The Implications of Land degradation

Elephants stuck in the silted lake

The siltation has created muddy waters in the lake. The elephants getting stuck in the mud <u>https://www.standardmedia.co.ke/entertainment/local-news/2001319284/photos-kws-officers-rescue-elephants-stuck-in-mudamp, https://www.the-star.co.ke/news/2019-04-03-three-jumbos-stuck-in-drying-lake-rescued/ at the shores of the silted lake have been seen and reported.</u>



Elephants stuck at the silted Lake Kamnarok. The siltation has made it difficult for elephants to bath and drink water. (© Joseph Kangogo).

Human Elephant Conflicts

The study shows that these activities have had severe impacts as human-elephant conflicts in the region intensify. In 2018, water scarcity in the lake forced elephants to encroach a nearby water borehole where conflicts escalated <u>https://africasustainableconservation.com/2018/03/03/48331/</u> resulting in the killing of three elephants.

In addition, the increasing human settlements in or near elephant migratory routes/corridors is worsening the situation. In 2019, two people were injured by migrating elephants <u>https://www.the-star.co.ke/news/2019-08-10-two-hospitalised-after-separate-elephant-attacks-in-baringo/</u> trying to enter Lake Kamnarok Game Reserve.

The issue was recently reported by Citizen TV Kenya:

Residents from Ayatya village living along Kerio Valley have threatened to kill marauding elephants who have been destroying their crops and fences <u>https://www.youtube.com/watch?reload=9&v=a89KeCr9jR0</u>



Human Elephant Conflicts. In 2019, migrating elephants trying to enter Lake Kamnarok Game Reserve destroyed fences and damaged crops.

Conclusion

In summary, the major conservation and environmental issues around Lake Kamnarok that this study is addressing include:

- a) The scale and types of human activities on land that have a direct and cumulative impact on water and other natural resources around the lake.
- b) The scale and type of upstream activities which influence soil, water and eventually the water quality in the lake.
- c) The unsustainable agricultural activities and illegal logging for charcoal production and firewood in the lake's catchment areas.
- d) The increasing biodiversity conflicts that is creating negative attitudes and perceptions especially towards elephants.