

Human-Wildlife Conflict In Greater Tsavo Ecosystem, Kenya.

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Vision for Future Society

- ◆ To reduce Human-Wildlife Conflict (HWC).
- ◆ Promote solutions that balance wildlife conservation, ecosystem health & human well-being.
- ◆ Support Sustainable livelihood and use data for better decision making.

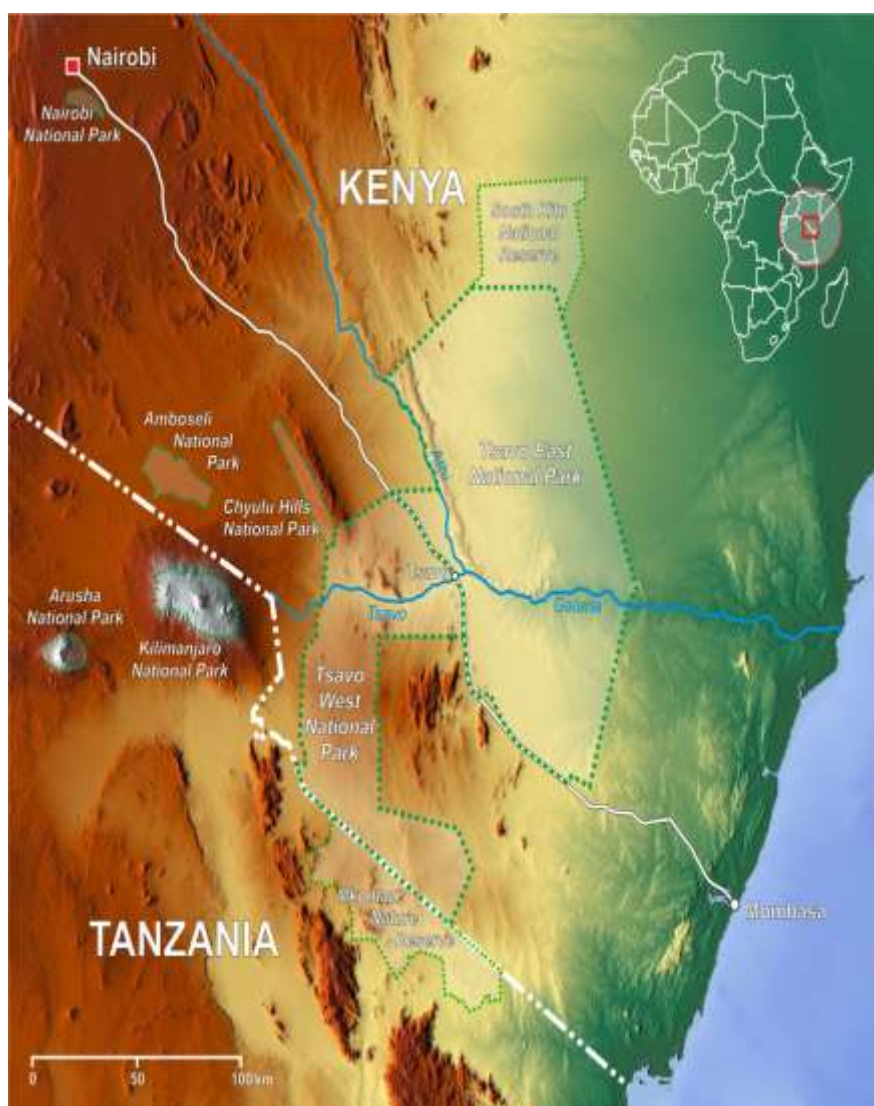


Figure 1. Greater Tsavo Ecosystem, Kenya (Source - Lancer 2007)

WHAT IS HUMAN-WILDLIFE CONFLICT?

Human-Wildlife Conflict (HWC) is a situation where interactions between people and wild animals negatively affect humans, wildlife, or both.



WHY DOES THIS MATTER?

- ❖ Human-wildlife conflict is globally common in areas where many wild animals and people live close together. (Meyer et al., 2022)
- ❖ Climate change affects wildlife by disrupting food availability, changing their habitats, and reducing their ability to tolerate environmental changes. (Bellard et al., 2012)
- ❖ In Tsavo, conflict is also linked with human activities, habitat change and competition for resources.
- ❖ In Tsavo, the data points to farming near park boundaries, livestock grazing, encroachment, habitat fragmentation and competition for water as important pressures.



6,936 INCIDENTS
recorded from 2020-2024

WHAT DID WE WANT TO FIND OUT?

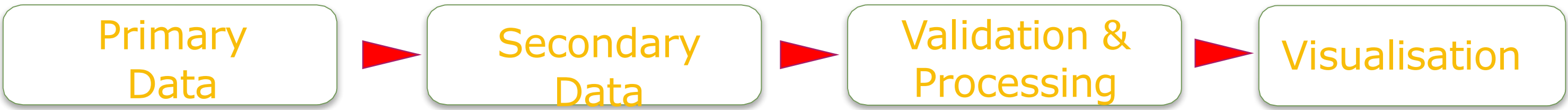
OBJECTIVES

- ❖ Develop a human-wildlife conflict mitigation framework using remote sensing.
- ❖ Determine indicators of human-wildlife conflict.
- ❖ Review the socio-economic and ecological scenario of the Tsavo Ecosystem.

KEY QUESTIONS

- ❖ Where are incidents concentrated?
- ❖ Which wildlife species are most involved?
- ❖ What conflict types are most common?
- ❖ How is land cover changing?

HOW WAS THE STUDY DONE?



WHAT DID THE DATA SHOW?

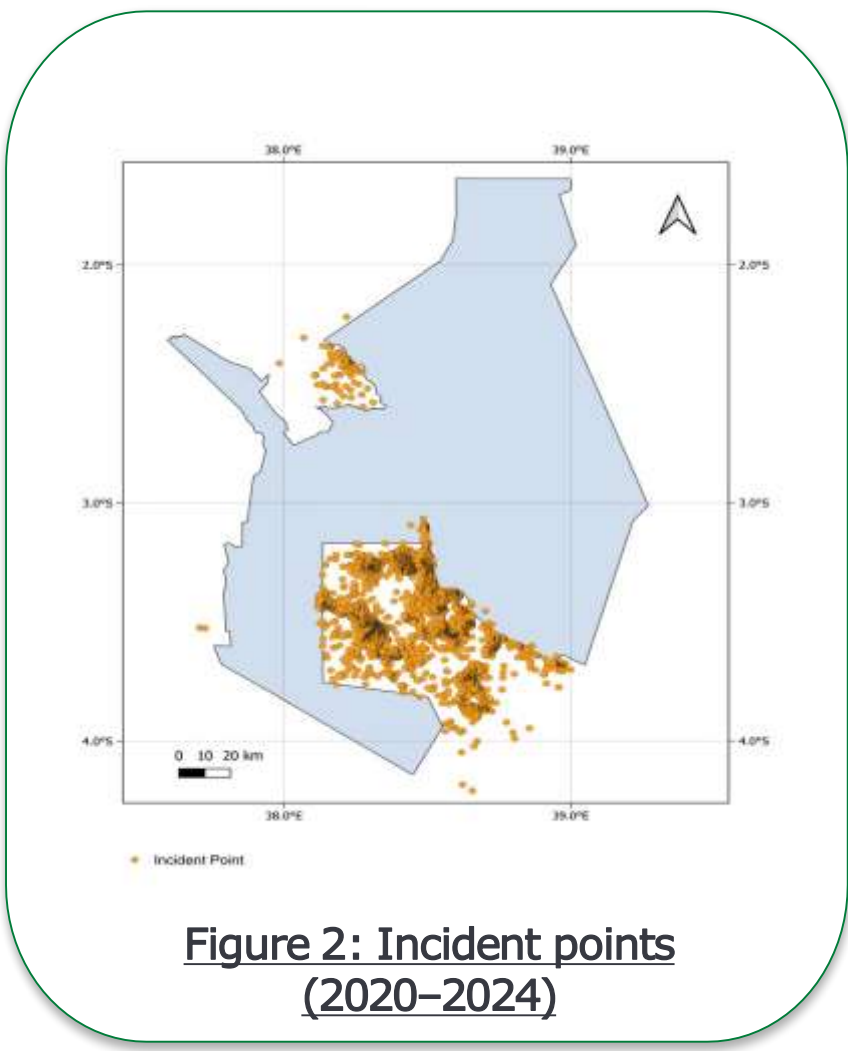


Figure 2: Incident points (2020-2024)

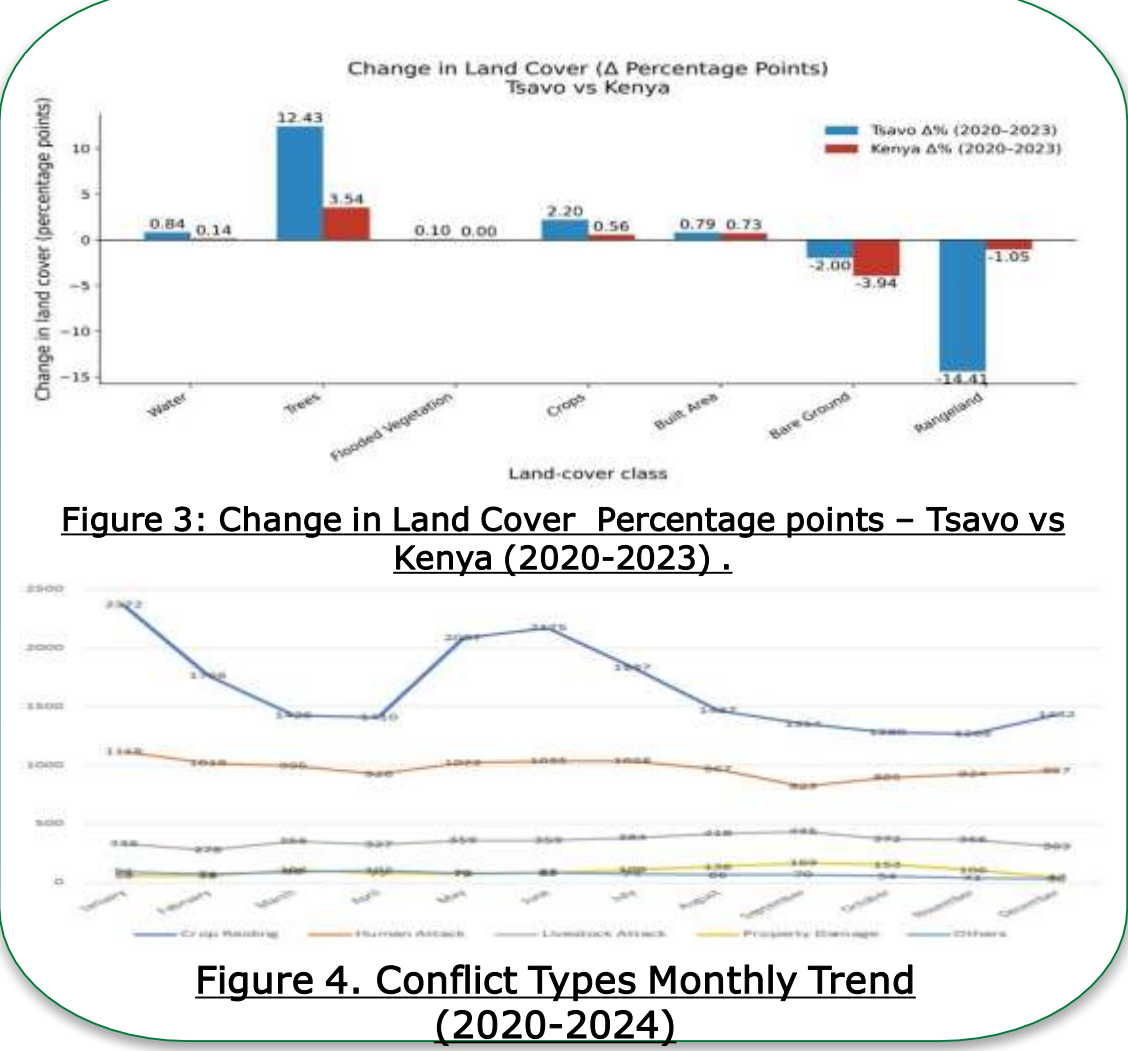


Figure 3: Change in Land Cover Percentage points - Tsavo vs Kenya (2020-2023) .



Figure 4. Conflict Types Monthly Trend (2020-2024)

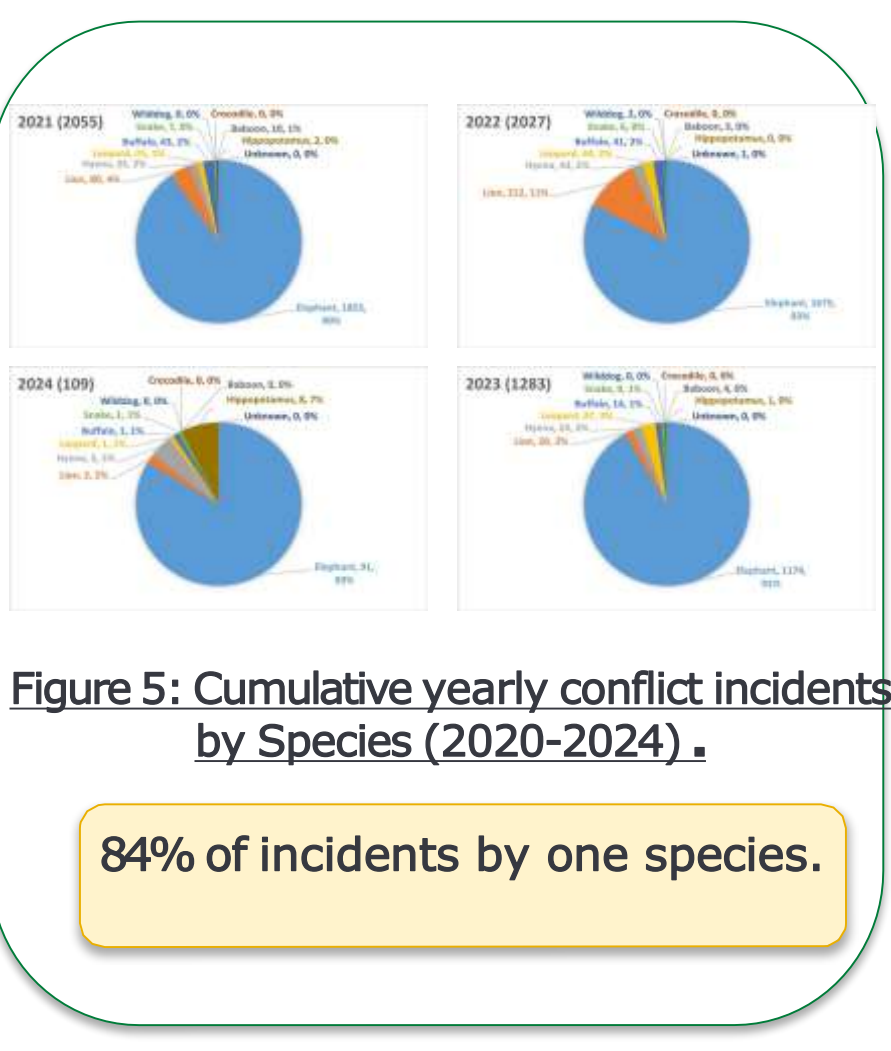


Figure 5: Cumulative yearly conflict incidents by Species (2020-2024) .

84% of incidents by one species.

WHAT DOES THIS MEAN?

- ❖ Figure 2. The corridor between Tsavo East and Tsavo West is an incident hotspot. A Total of 6,936 incidents were recorded.
- ❖ Figure 3. Elephants with 84% are the leading cause of human-wildlife incidents followed by lions.
- ❖ Figure 4. Crop raiding is most frequently occurring conflict type.
- ❖ Conflict is not only a wildlife problem. Changes in land use, farming, grazing, development and water availability can increase pressure on both people and wildlife.



Solutions

- ❖ Early warning System: Track wildlife using GPS and satellites, and send alerts through SNS, radio, etc. when spotted near settlement.
- ❖ Water management: Separate wildlife and livestock water points, improve community water access, protect natural water sources and wetlands, monitor drought using satellite data, and keep water points away from settlements.
- ❖ Community support: Provide quick compensation and insurance, share tourism benefits, support alternative livelihoods, and involve local communities—including women, youth, farmers, and pastoralists—in decision-making
- ❖ Coexistence solutions: Protect wildlife corridors, control farming and settlement in high-risk areas, use remote sensing to map conflict zones and habitat changes, develop community land-use and grazing plans, restore rangelands and water sources, and support livelihoods such as beekeeping and ecotourism.