

Project Update: September 2023

1.0 Project summary

The study area is predominantly the Ngido ethnic group. Other small ethnic groups include Mwera, Makonde, Yao, Makua, Sukuma and Mang'ati (LDC, 2018). The recent national population census shows that, in 2022, the district had 136,505 inhabitants (NBS, 2023) and the main economic activities include agriculture, livestock keeping and tourism (hunting tourism). The Selous-Nyerere Ecosystem (SNE) hosts the largest population of large carnivores in the world, specifically lions, with the ecosystem serving as a core habitat for an estimated 3000 - 4000 lions (Crosmar et al., 2018). In the past decades, the expansion of agricultural activities and the introduction of hundreds of livestock under a traditional pastoralist husbandry regime in marginal village areas have fragmented protected wildlife habitats and restricted large carnivores to areas of high potential. Furthermore, the proliferation of livestock herds among large carnivores has likely led to conflict and aggravated the killings of large carnivores. From May to September 2023, we conducted three main activities: (i) show the current dispersal rate of large carnivores and evaluate the differences among wildlife management areas, open areas and forest reserves; (ii) collect evidence on carnivore attacks in villages adjacent to protected areas; and (iii) assess human attitudes towards human-large carnivore conflicts/carnivore attacks on livestock and humans.

2.0 Project activities

2.1 To show the current dispersal rate of large carnivores and evaluate the differences among wildlife management areas, open areas and forest reserves.

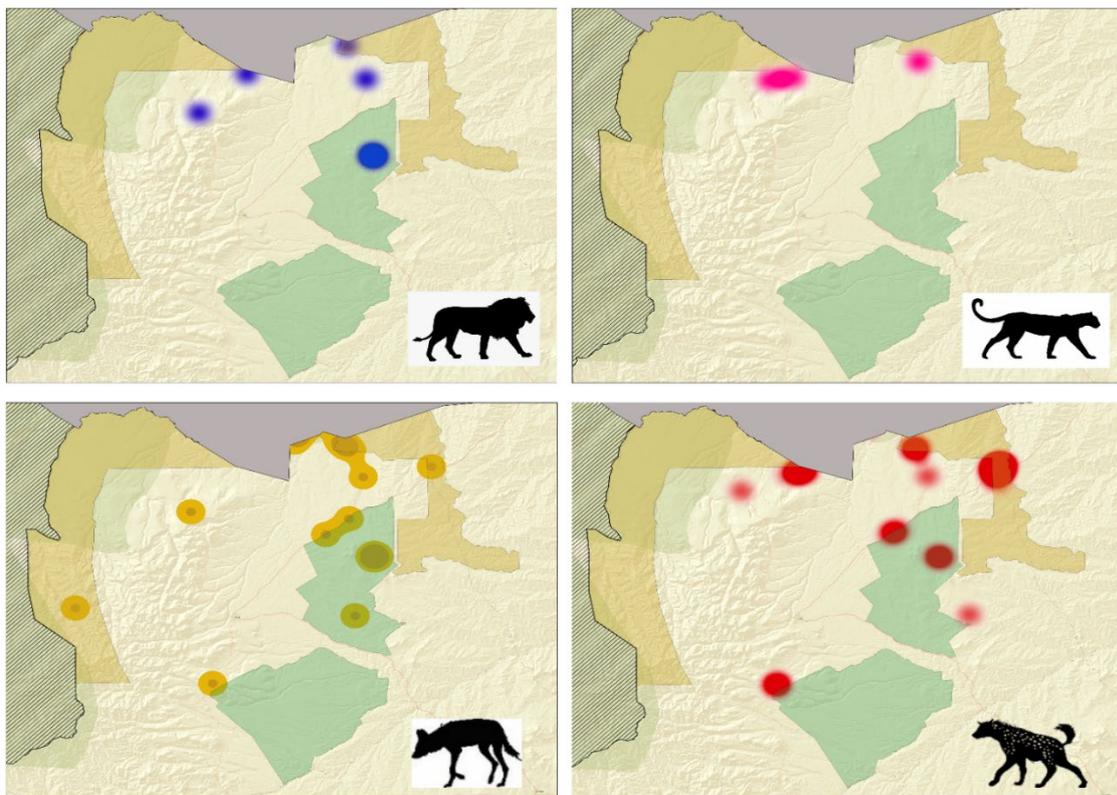


Figure 01: The rate of large carnivore dispersion in the protected areas

Large carnivore dispersion is higher in pastoralist village than in agricultural land. The high overlap between endangered wild dogs and spotted hyaenas was due to similarities in their hunting strategies. Spotted hyaenas and wild dogs are both predators that hunt in groups. For example, both species use cooperative hunting techniques to take down prey that is much larger than themselves. They also both have a high success rate when hunting in groups. However, there are also some differences between the two species. For example, wild dogs are more agile and can run faster than hyaenas. They also tend to hunt during the day, while hyaenas are more active at night. However, hyenas are larger and stronger than wild dogs and can sometimes overpower them. In addition, hyaenas have been known to steal food from wild dogs.

2.2 To collect evidence on carnivore attacks in villages adjacent to protected areas

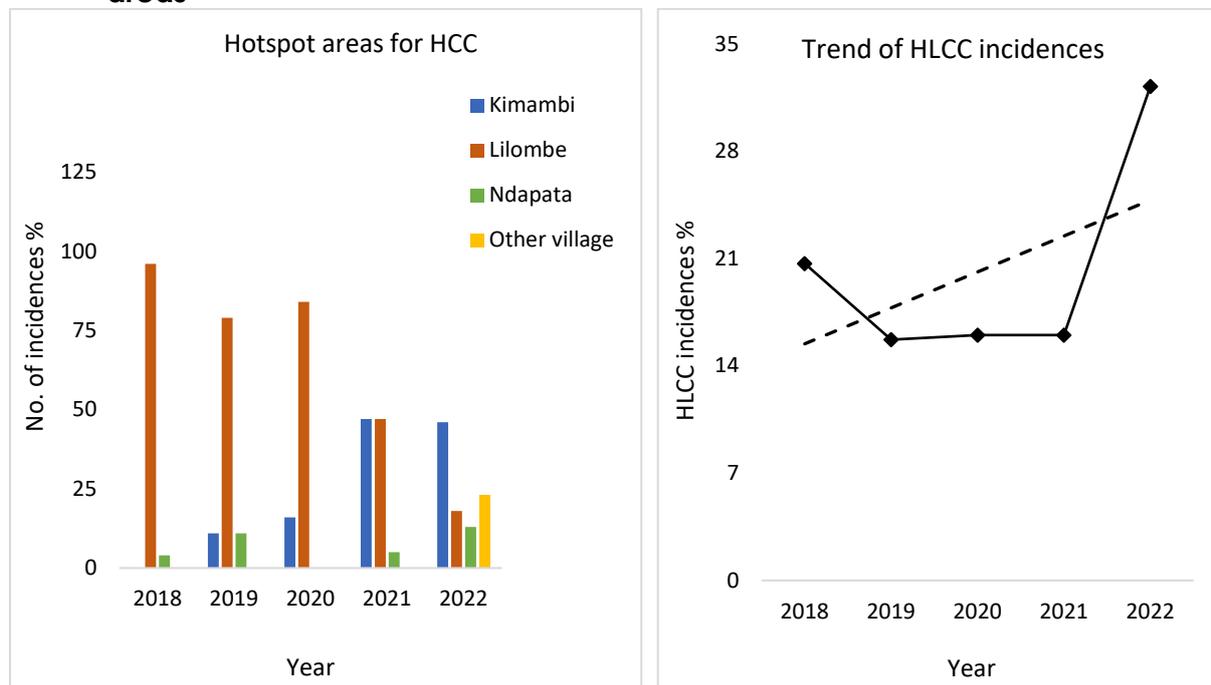


Figure 02: Human-large carnivore conflict incidences between 2018-2022

In the Liwale district, the first carnivore attack on livestock was reported in 2014 in Ndapata village. Later on, in 2018, the situation became too serious and started to evolve in other villages bordered by the protected areas. From 2018-2022, 121 HLCC incidences were recorded, marking an average of 24.2 incidences yearly. For the past 5 years, Kimambi and Lilombe villages had a total of 32 and 71 incidences, equal to 26.44% and 58.68%, respectively. Ndapata and other villages equally had a total of nine incidences which marked 7.44% each. Yearly, 39 incidences were recorded in 2022, the highest number of incidences reported in the past 5 years. Between 2018 and 2021, an average of 21 incidences were recorded yearly. Village executive officers of both surveyed villages declared that currently, carnivore attacks on livestock have become severe due to improper livestock husbandry and livestock incursion into protected areas.

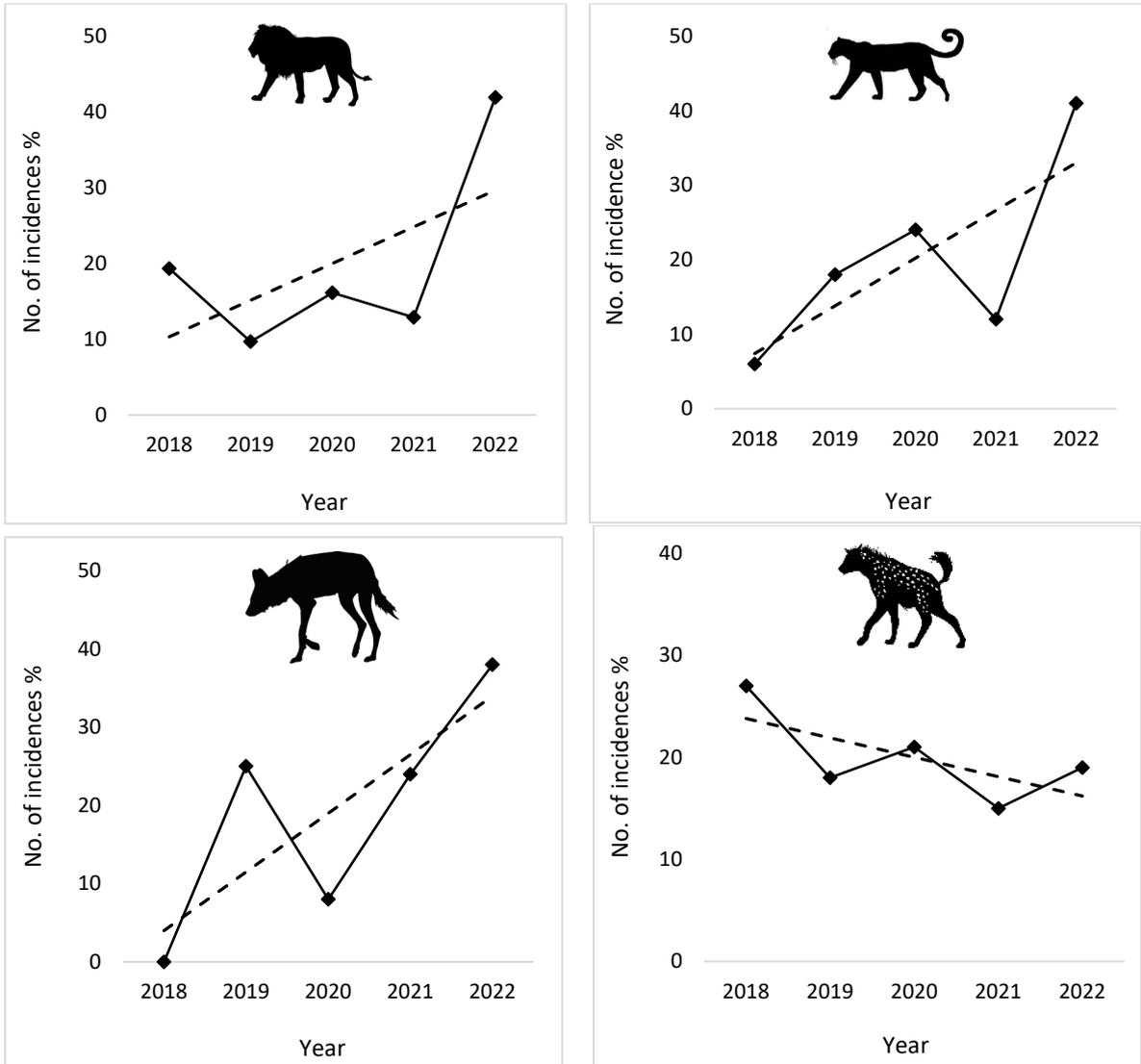


Figure 03: Trend of large carnivore attack incidences between 2018-2022

In the period of 2018-2019, large carnivores were involved in 150 attacks, specifically on livestock, with no human death/injuries recorded during that time. In total, hyaenas had the highest number of attacks, 52%, followed by lions 20.67%, wild dogs 16% and leopards 11.33%. Due to retaliation killing by local people, the trend of hyaena attacks on livestock currently tends to decrease compared to other carnivores. However, for the past 5 years, hyaenas have been more responsible for the highest percentage of livestock loss due to their hunting strategies, and they can live closer to human settlements with less fear. Local people declared that killing a hyena is much easier than other carnivores. They consider other carnivores to be more aggressive and dangerous; therefore, killing a lion or leopard could cost their life, especially human death/injury.

2.3 To assess human attitudes towards human-large carnivore conflicts/carnivore attacks on livestock and humans

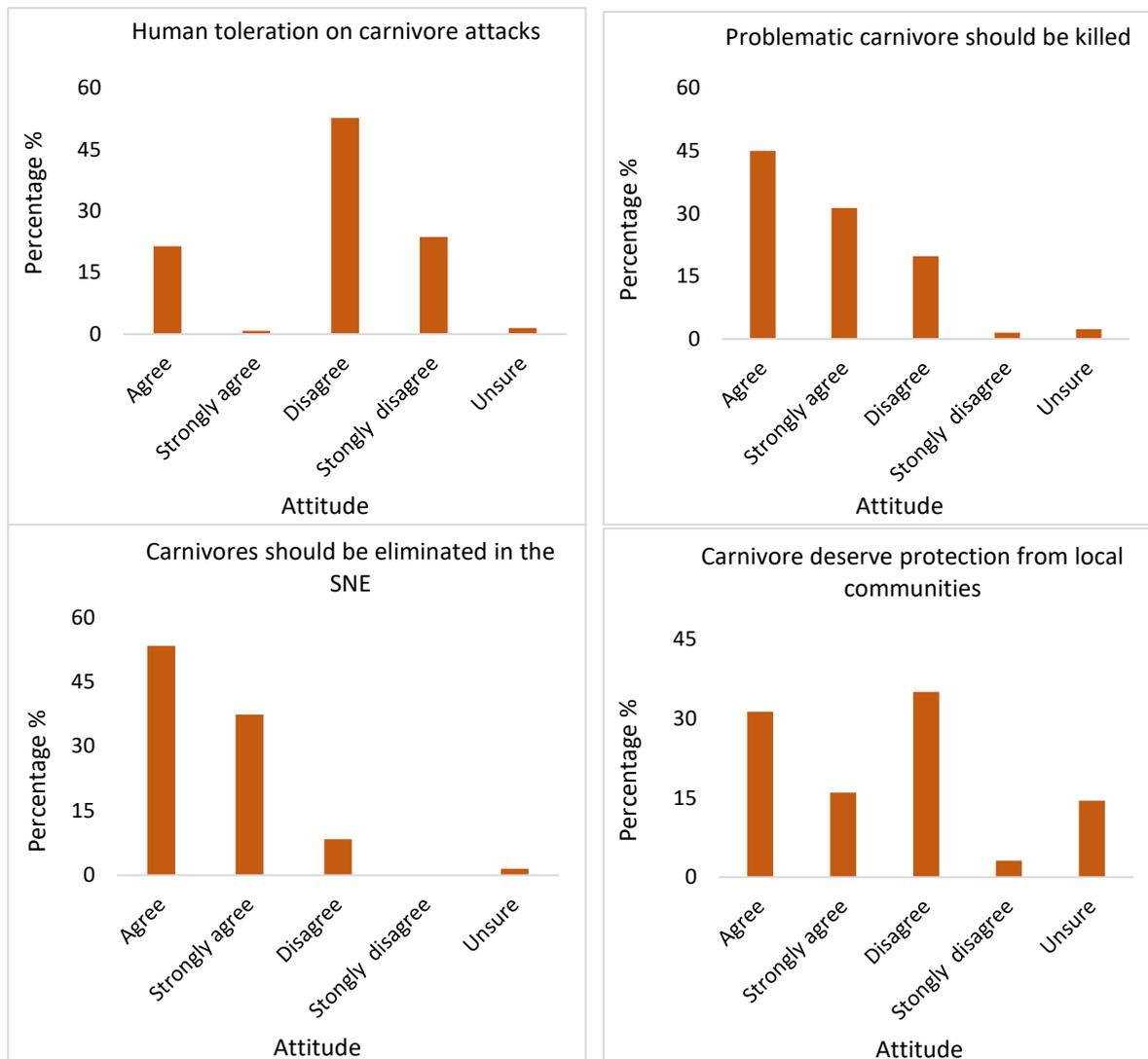


Figure 04: Local community attitudes towards human-carnivore conflicts

In response to questions asked about the local community's attitude toward large carnivore conservation efforts, the majority responded negatively. The level of negativity (disagree/strongly disagree) among people was highly dependent on the level of damage a person has faced. The situation reflects how much effort is needed to be invested in securing the promising future of the carnivore population in the ecosystem. Otherwise, the population could face a serious decline.

3.0 Next phase

The next step of the project (October - December 2023) will be:

- i. To provide conservation education specifically on carnivore behavioral ecology.
- ii. Project evaluation and writing a final report.



