

Introduction.

Research on snakebite has mostly been conducted on settled populations. There is limited epidemiological data on mobile and nomadic populations, who may have a higher risk of snakebite.

Methods.

Scoping review on survey methods used in nomadic populations.

Scoping review on contemporary survey methods used for snakebite research.

Geospatial techniques & open-source high-resolution satellite images to create a digital sampling frame of 50,707 homesteads in Samburu County, Kenya

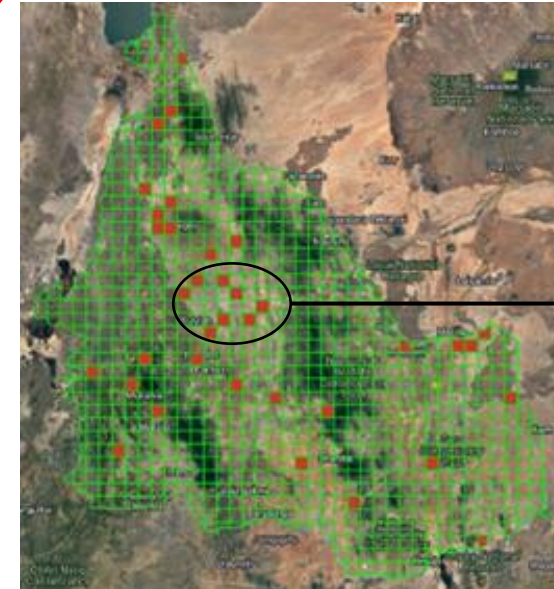
Multi-stage cluster sampling strategy.

Results.

Only 16 (10.5%) of 154 articles reportedly conducted on pastoralist nomadic populations involved mobile pastoralists.

Created a digital sampling frame of 50,707 homesteads, sampled & geolocated 900 households

Correctly identified and collected data from 573 (65.4%) households and randomly sampled 302 (34.6%) households to replace completely abandoned and untraceable households.



Map of the Samburu County grids and selected grids following probability proportional to size sampling, and a zoomed-in image of settlement patterns



Spatial image of a group of homesteads with a surrounding thorn fence



Red Spitting cobra, snake species responsible for most bites in Samburu county, Kenya
Photo credits – John Marais© African Snakebite Institute

Conclusion.

Highly mobile populations require specific considerations in selecting or creating sampling frames and sampling units for epidemiological research.

Open-source satellite imaging and geographic information systems can improve the conduct of epidemiological research in these populations.

Collaborators and funders:

