

Submitted Abstract

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Abstract

The Kamiesberg Mountains in South Africa represents a complex social-ecological system where mobile pastoralists sustain their livelihoods. The region is part of the most plant diverse deserts in the world and thus have great conservation value. Furthermore, the area is also home to indigenous Nama pastoralists who have been farming with cattle and now more predominantly, goats and sheep for more than two centuries. The pastoral system has undergone several evolutions in its (pre)colonial and democratic eras. In addition to these political drives of change, there has been a decline in social values and erosion of the Nama culture. Climate change and its associated hazards, have also impacted on Nama livelihoods but pastoral practices have somehow managed to adapt to these drivers of change. The outcome was a constrained mobile pastoral system where short-range herd movements would still allow livestock access to spatial and temporal variable forage and water resources whilst at the same time addressing the socio-economic needs of the livestock owners.

However, with a continual increase in recorded mean annual minimum temperatures and climate hazards particularly droughts in the region, the basic foundations of the adapted pastoral system are under threat. These include dryland crop production of winter cereals that are used for supplementary feed during the dry summer months. When croplands are cultivated, it facilitates the movements of livestock herds away from growing crops. Then again, with an increase in rainfall variability and uncertainty, agro-pastoralists have abandoned cropping due to an increased risk of crop failure.

Furthermore, the movement of herds to lower elevations to escape (near)freezing point conditions have also decreased in frequency and duration. The increase in minimum temperatures lead to pastoralists now perceiving that their livestock can tolerate the cold winter temperatures in the uplands. This resulted in the gradual reduction in the historically necessitated vertical transhumant movements.

When livestock mobility is curtailed, we should expect overgrazing in certain habitats which would have negative impacts on the vegetation and initiate degradation. With no formal management plan, the pastoral system relied on shared cultural norms and local knowledge. Now that the land will be formally owned by the municipality and not pastoralists, there is a need for local government to sustainably manage the land and reduce the impacts of climate change. This presentation will outline a proposed local governance framework to restore pastoral mobility and the role of stakeholders to implement a sustainable pastoral system.