



Amboseli Conservation Bulletin

The economic viability and cultural significance of livestock post 2022-2023 drought. Insights from the Amboseli ecosystem

By Sakimba Kimiti

Introduction

The severe drought of early 2022 to February 2023 in the Amboseli ecosystem took a heavy toll on the herds and livelihoods of herders. The large number of livestock deaths and the heavy expenses incurred in managing herds during the drought highlights the urgent need for a comprehensive assessment of the viability of livestock production in the region. Despite the growing economic losses, herders, government and non-government agencies have had challenges in evaluating the losses, making it difficult to make informed decisions for improved livestock management and development.

The lack of accurate information has led to an undervaluation of traditional livestock production systems. The undervaluation has, in turn, resulted in poor government and development agency support for the pastoral area. The recurrent widespread droughts and heavy livestock mortality calls for a thorough valuation of the economic costs of keeping animals alive, and the economic value and cultural significance of doing so.

Detailed information on the economic costs of drought will help herders, government and development agencies take stock of the impact and causes of drought and mitigating measures that can be taken. The information also raises questions about whether the economic costs of drought are justifiable in the face of rangelands subdivision, degradation and climate change.

To gain insights into the impact of the drought, I conducted small-scale surveys across the Amboseli ecosystem in late October 2023, shortly before the start of the short rains.

The information collected included expenses incurred in purchasing hay, maize stalks, livestock supplements, including maize meal (unga), livestock drugs, vaccines, acaricides, transporting livestock, leasing grazing land, and other drought-related costs. The data were broken down by month to track the time course of livestock deaths, sales, costs and value of the remaining herd.

Traditional livestock practices involving free-ranging livestock movements across shared grass and water sources are essential to the cultural fabric of pastoralists in the Amboseli ecosystem, and in sustaining wildlife herds.

Ignoring the collective use and management of pastures undervalues the cultural significance of livestock, leading to a lack of policy support for maintaining the productivity and resilience of pastoral land, to small-scale subdivision, and pasture degradation. I have, for this reason included cultural values in my survey.

Survey results

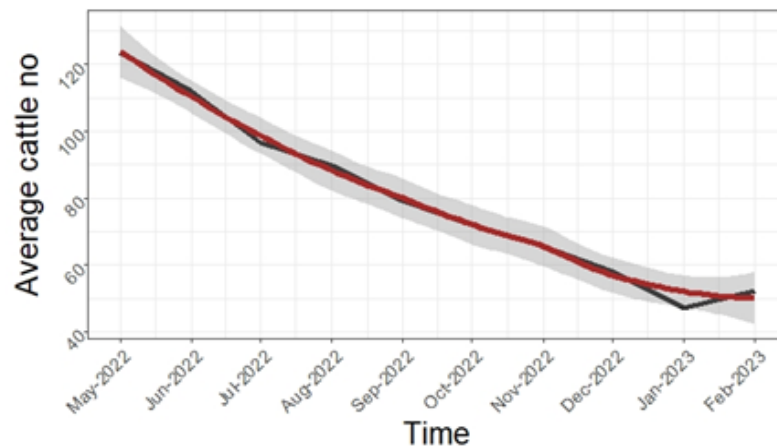


Figure 1: The average herd size of interviewed respondents over the entire drought period. Herd size declined steadily, primarily due to starvation, but also due to sales. The collective losses underscore the need for comprehensive strategies to mitigate the impact of drought.

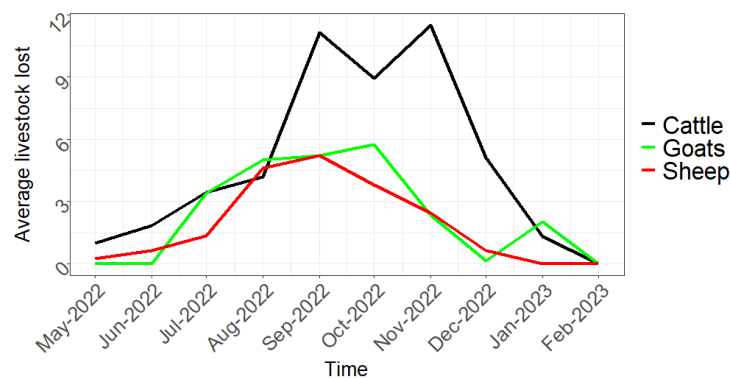


Figure 2: Livestock losses built up during the course of the drought. Despite goats and sheep showing similar trends, cattle losses ran far higher. The higher cattle losses resulted from herders being unable to keep up with the greater food requirements on natural pastures and supplementary feed.

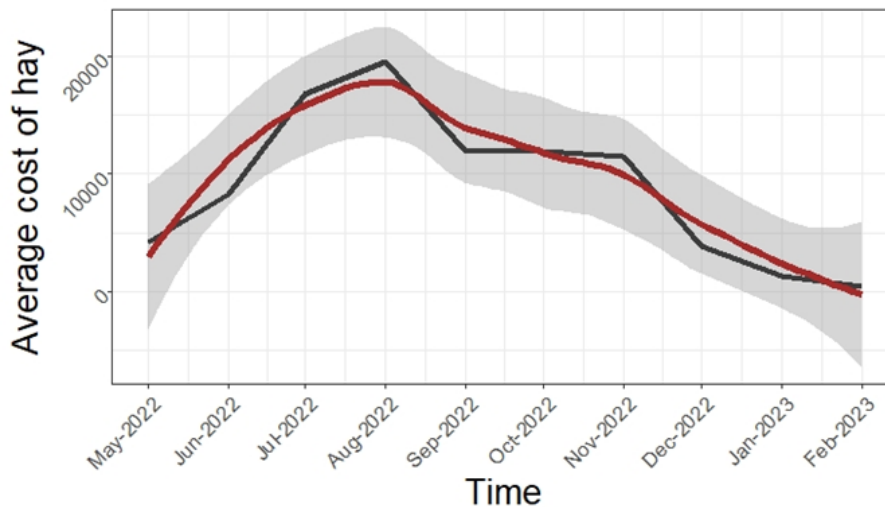


Figure 3: Average costs incurred on hay purchase over the course of the drought. Costs rose steeply from May through August 2022, then declined due to falling livestock numbers and better preparedness by respondents.

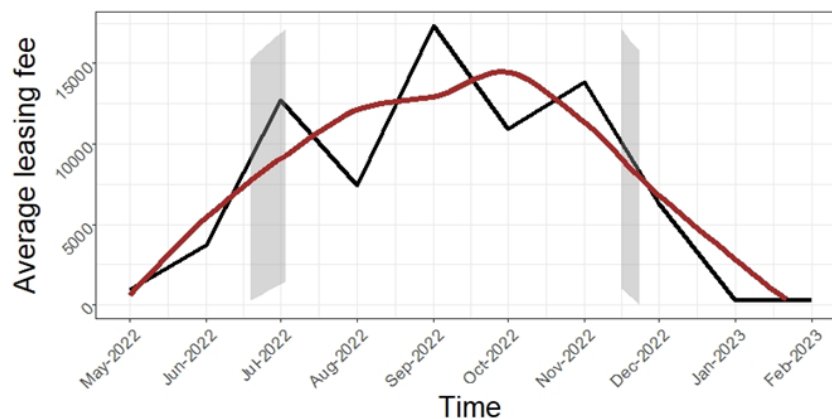


Figure 4: Average leasing fees paid by respondents to secure grazing on distant pastures. Charges varied greatly between locations. Most grazing was leased in the highlands of Narok county (Ntulele) and eastern Ukambani, including Kibwezi, Makueni and Kitui. Most leasing was done by herders who did not want to purchase hay during the first few months of drought. Most herders eventually ended up buying hay and supplements in any event.

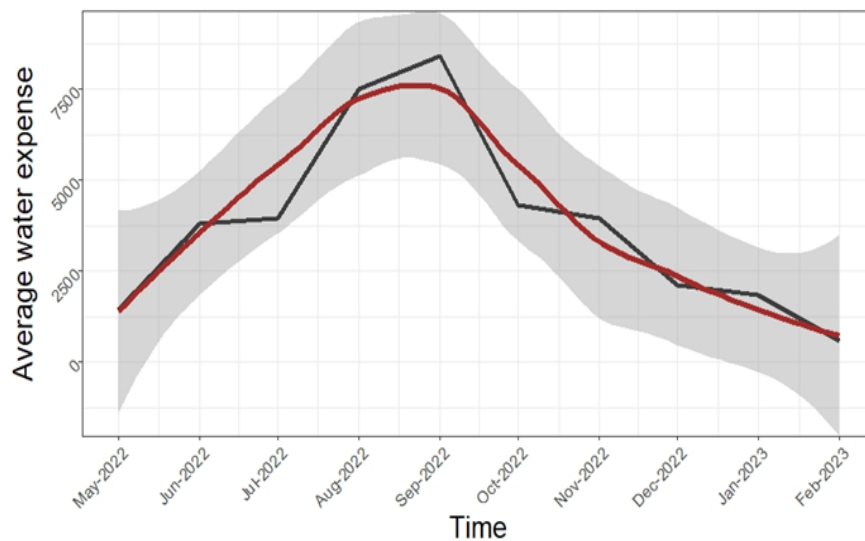


Figure 5: The average cost incurred in buying water across Amboseli ecosystem. Peak purchases occurred in August when herders were paying for water to keep the remaining weakened animals alive. Herders who spent more on water for longer periods through the drought had better livestock survival than short-term buyers.

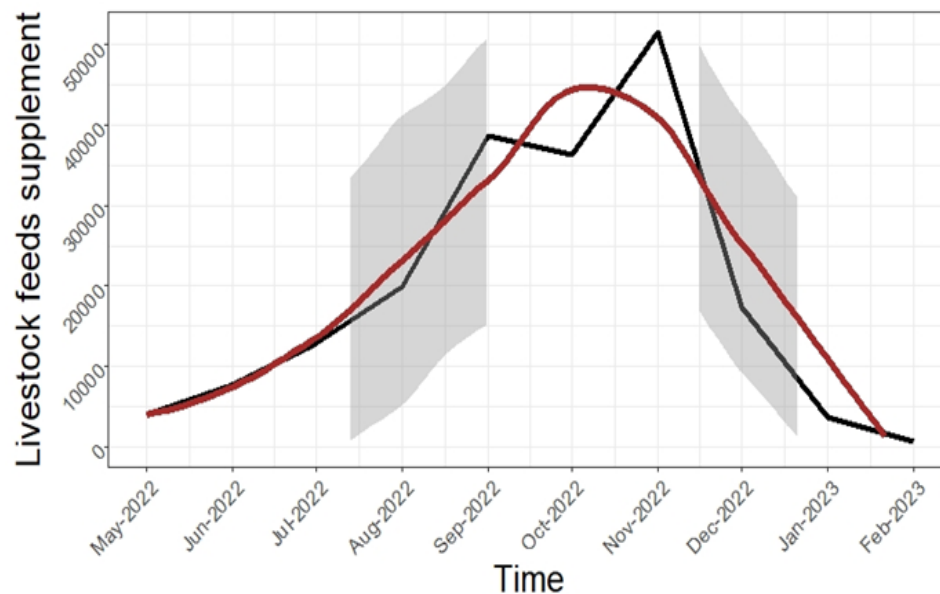


Figure 6: Livestock feeds and supplements expenses incurred throughout the drought. The high and rising costs show the extent to which herders were willing to keep their animals alive.

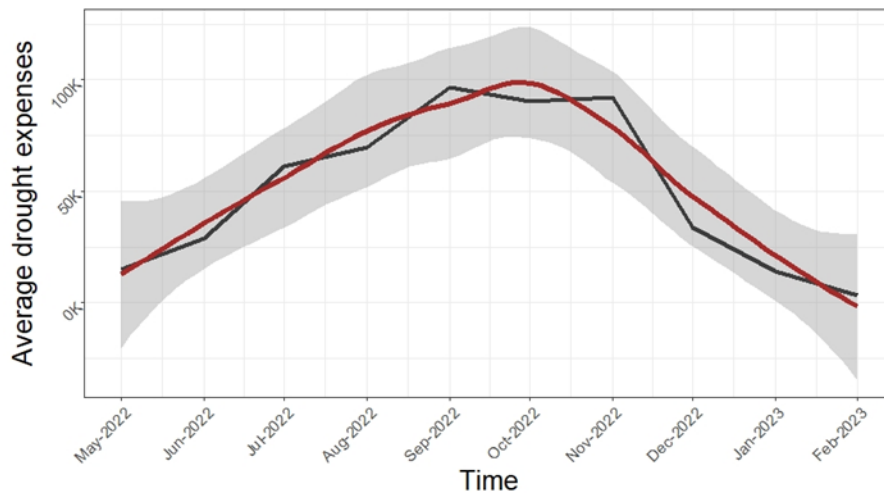


Figure 7: Average drought total expenses incurred through the course of the drought. The expenses include buying hay, livestock feeds and supplements, maize stalks, water, transporting animals, leasing grazing land and other incidentals such as livestock vaccinations and medications. The costs peaked in September when animals were weakest and deaths mounted. Herders reportedly spent far more to keep their animals alive in the 2022-23 than 2009 drought.

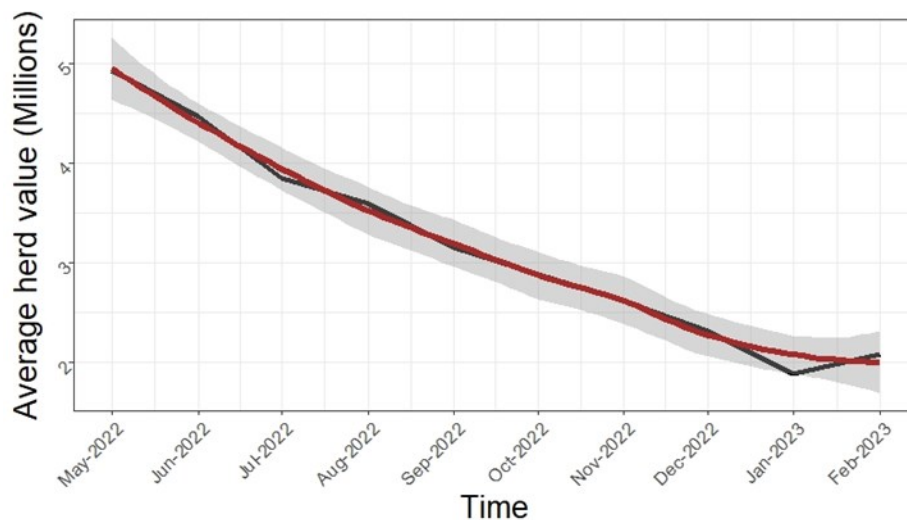


Figure 8: The average value of herds over the course of drought. Herd value declined steadily due to starvation, disease, predator depredations, sales and gifting to family and associates. In a healthy reproducing herd, the value increases with new births which occur yearly in cattle, and twice-yearly in sheep and goats. The values after reproduction are not included in the graph. Herders often discount the current herd value in favor of the additive value and cash flow year-round over several years.

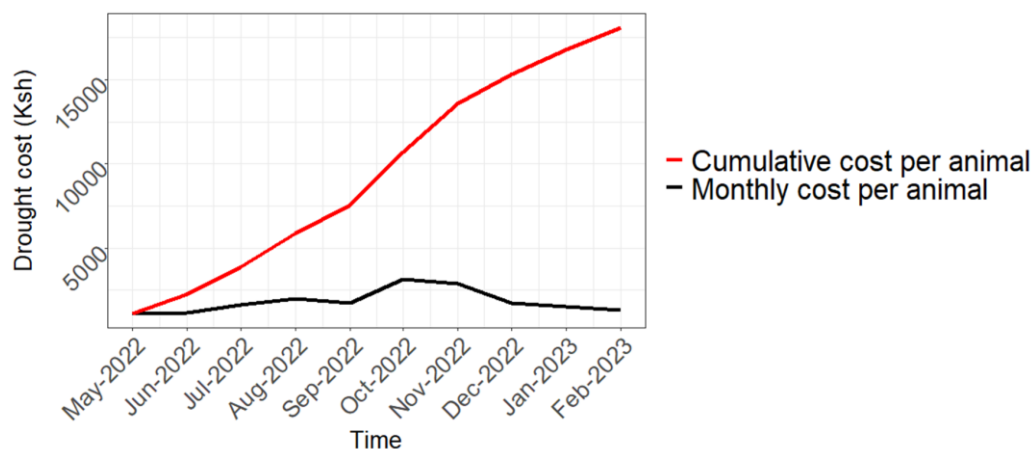


Figure 9: The cumulative and monthly costs of keeping one animal alive through the drought period. Herders had spent a total of Ksh 18,000 per animal by the end of the drought. Taking the average herd size of 80 animals at the peak of the drought, and discounting for animal sold and those that died, each herder spent on average a total of as Ksh 1,440,000 to save their cattle against an average herd value of Ksh 2,400,000 at the end of the drought.

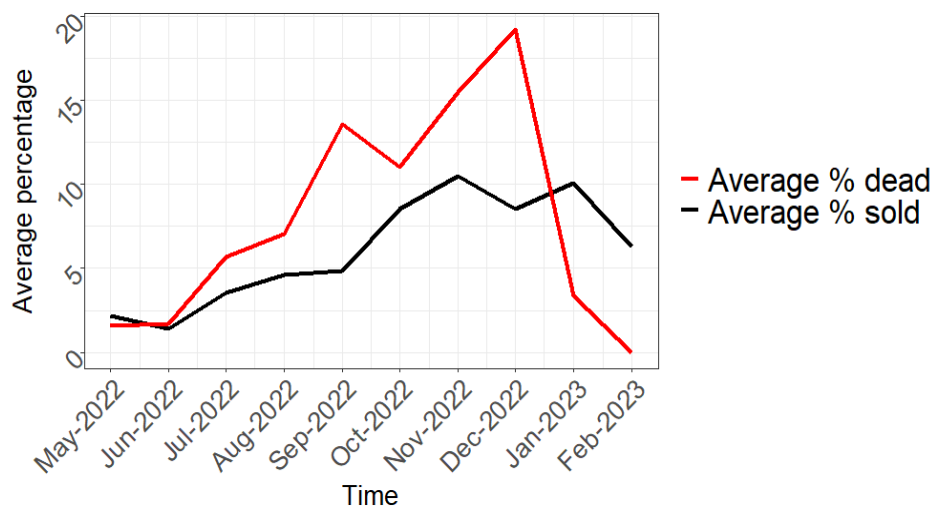


Figure 10: The average number of livestock sold against the number of animals dying of starvation over the course of the drought. The losses to drought are twice the numbers sold until animal condition begins to recover with the short rains in late 2022.

Conclusion

In the wake of the devastating 2022-2023 drought in Amboseli, urgent action is needed to assess the economic viability and cultural significance of livestock production in the ecosystem. The economic value of livestock fell by a half during the drought. The lack of a comprehensive assessment of the economic costs until now has hindered decision-making to curb the losses and improve herd productivity and family incomes.

The undervaluation of traditional livestock production systems and economic losses due to rangeland degradation and drought has resulted in inadequate government and development agency support for the pastoral areas. To avoid future economic losses and hardships, thorough and regular evaluations must be conducted to assess the economic and cultural significance of traditional pastoral practices. This calls for maintaining the productivity and resilience of pastoral land, managing small-scale subdivision, and preventing pasture degradation.

Future directions

Moving forward, strategies to mitigate the impact of drought must be comprehensive and well-informed. The Amboseli Conservation Program (ACP), together with its partners, is assessing and modeling the economic costs of drought. The costs include purchasing feed, leasing grazing lands and other drought-related costs compared to market prices.

ACP is also looking into the economic viability and cultural significance of pastoral livestock practices. Pastoral practices are closely tied to cultural identity and foster coexistence with wildlife. Exploring the impact of rangeland subdivision, degradation, and climate change on the economy and culture of pastoral societies is key to sustaining the productivity and resilience of livestock in Kenya's rangelands.

ACP will continue its monitoring of the Amboseli ecosystem and research into the threats and opportunities facing pastoralists and wildlife. The information will help assess and combat the severe economic losses incurred by drought and, in so doing, improve the productivity, resilience and economic value of Kenya's rangelands.

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