Tropentag, September 16-18, 2026, hybrid conference

"Towards multi-functional agro-ecosystems
promoting climate resilient futures"

Seeds of hope during the 2020-23 drought: Collective fodder production saved livestock in Kajiado, Kenya

Gibson Simel Lemama [1], Guesbeogo Yameogo[1], Todd Crane[2], Kristina Roesel[1]

[1] *University of Hohenheim, Inst. of Agric. Sci. in the Tropics (Hans-Ruthenberg-Institute), Germany*
[2] *International Livestock Research Institute, Sustainable Livestock Systems, Kenya*

Abstract

Introduction: For thousands of years, pastoralists have been adapted to seasonal changes in water and pasture supply by migrating with their livestock. However, this strategy is under threat due to land fragmentation and exacerbated by a higher frequency of extreme weather events, such as droughts. Collective action in fodder production could enhance sufficient production and conservation of forages, addressing these challenges.

Methods: In October 2025, an observational study using a qualitative case study design was implemented in Kajiado County, Kenya. Five out of 9 fodder-producing pastoralist groups in the county were selected to better understand drivers for group formation, collective action strategies, group governance as well as challenges and opportunities in addressing fodder and forage deficit. Five semi-structured interviews and one key informant interview were conducted, recorded, transcribed, translated and analysed using thematic analysis.

Results: Findings show that most of the groups actively started organising themselves in fodder production following the 2020–2023 drought, when – despite the nationwide livestock losses – none of them lost any animals. Fodder is produced for group members' own livestock and the local market; commercialisation is affected by a lack of consistent demand and price-quality mechanisms. Additionally, results indicate that pastoralists pool and share resources (i.e. labour, land, equipment) to grow, harvest and store hay, using traditional pasture preservation areas (Olepololi). Existing institutional arrangements include paid membership and shares; group leadership and enforcement of group rules (i.e. fines and expulsion vs. discounts); strategies for fodder production such as mechanisation; benefits from collective action include risk reduction and economic benefits as well as interactions with national and international stakeholders on improved seeds and management practices. Major constraints identified are access to seeds, capital for mechanisation, storage facilities, as well as capacity on management of pests, and post-harvest losses. Socio-cultural constraints revolve around women's access to land to grow fodder on their own, unpaid time put towards the groups, and concerns about the role of the next generation in the Maasai society.

Conclusion: Despite reported challenges, collective action increases the self-efficacy of fodder production and the capacity for crisis management in Maasai communities in Kajiado County.

Keywords: Climate change adaptation, collective action, livestock feed conservation, Maasai pastoralists, resilience

Contact Address: Gibson Simel Lemama , University of Hohenheim, Inst. of Agric. Sci. in the Tropics (Hans-Ruthenberg-Institute), Garbenstrasse 17, 70593 Stuttgart, Germany, e-mail: gibson.lemama@uni-hohenheim.de