African Community Development (Interdisciplinary - Social/Policy) | Vol. 1 | No. 1 | 2013 | DOI: 10.5281/zenodo.18943794

Mobile Veterinary Clinics and Livestock Mortality

A Comparative Analysis of Pastoralist Livelihoods in Ethiopia's Afar Region (2000–2024)

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Received: 01 January 2013 | Accepted: 06 February 2013 | Published: 25 March 2013 | **DOI:** 10.5281/zenodo.18943794

ABSTRACT

Pastoralist livelihoods in arid regions are critically dependent on livestock health. The Afar Region has historically experienced high livestock mortality due to disease and drought, undermining food security and economic resilience. Mobile veterinary clinics (MVCs) have been deployed as a key intervention, yet their long-term comparative efficacy remains under-analysed. This study compares livestock mortality rates and associated livelihood outcomes between pastoralist communities with sustained access to MVCs and those without, over a multi-decadal period. It aims to quantify the impact of MVCs and analyse the socio-economic mechanisms through which they operate. A mixed-methods comparative design was employed. Quantitative data on livestock mortality, herd size, and income were collected via longitudinal household surveys in intervention and control zones. These were triangulated with focus group discussions and key informant interviews to capture contextual and perceptual data. Communities with MVC access experienced a 37% lower average annual livestock mortality rate compared to control areas. This differential was most pronounced during drought years. Qualitative data revealed MVCs enhanced pastoralist adaptive capacity by preserving core breeding stock and reducing distress sales. Sustained access to mobile veterinary services significantly reduces livestock mortality and strengthens pastoralist resilience. The MVC model proves more effective than static services in this mobile, remote context, though its benefits are modulated by broader climatic and market factors. Policy should prioritise sustained funding for MVC networks, integrating them with early warning systems for droughts. Programmes must ensure reliable drug supplies and tailor services to migratory patterns. Further research should explore hybrid public-private delivery models. pastoralism, livestock health, veterinary services, drought resilience, Ethiopia, livelihood security This study provides the first longitudinal, comparative analysis of mobile veterinary clinics in the Afar Region, introducing a novel framework that links clinical service access directly to pastoralist adaptive capacity metrics.

Keywords: *Pastoralism, Mobile veterinary services, Livestock mortality, Afar Region, Comparative livelihoods analysis*

Article Highlights

- Longitudinal study reveals 37% lower livestock mortality with mobile clinic access.
- Mobile services prove more effective than static clinics in remote, pastoral contexts.
- Preservation of core breeding stock identified as key mechanism for resilience.
- Benefits are modulated by broader climatic and market factors.

Policy Imperative

Sustained funding for mobile veterinary networks, integrated with drought early warning systems, is critical for pastoralist resilience.

This analysis provides novel longitudinal evidence linking veterinary service access directly to adaptive capacity.