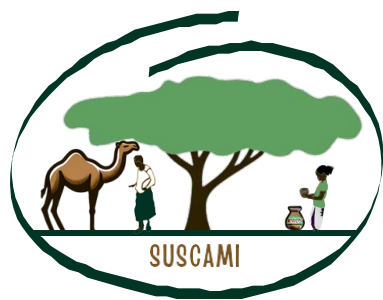




Assessment of Camel Milk Handling Practices and Bacterial Loads along the Value Chain in Borana and East Shewa, Ethiopia

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U N I K A S S E L
V E R S I T Ä T



Introduction

Camel milk plays a vital role in the livelihood and food security of pastoral communities in Ethiopia. Unhygienic milk handling practice compromises the quality and safety of camel milk.

Objective: To investigate camel milk handling practices and microbial quality along the value chain in Borana and East Shewa zones.

Material & Methods



A total of 124 camel milk value chain actors in the East Shewa and Borana zones interviewed for Camel milk handling practices (2025)



752 milk and swab samples were collected from value chain actors (dry and wet season 2025/26)



Descriptive statistical analysis was performed using R version 4.5.2



Fig. 1. Camel milk sample collection.

Conclusions & Recommendation

- Camel milk in both East Shewa and Borana is exposed to multiple contaminations risks due to unhygienic practices, lack of cold chain infrastructure and limited awareness of food safety.
- Awareness creation on improved milk handling practices and infrastructure development are essential to enhance food safety.

Results

Most producers never washed their hands (72.9%) or cleaned the udder (95.8%) before milking, while post-milking hand washing was common (91.7%). Nearly all producers washed (97.9%) and smoked (95.8%) their milk containers daily. (Tab. 1). All of the retailers (100%) and 60% of the collectors washed their hands with water and soap while handling milk.

Tab. 1. Milk handling practices and storage conditions of producers

Milk handling practices	Total	Percent(%)
No hand washing before milking	35	72.9
Hand washing after milking	44	91.7
Vessel washing	47	97.9
Smoking frequency	46	95.8
Milk storage at room T ⁰	47	97.9

Nearly all of the value chain actors keep milk at room temperature until consumption. Boiling of milk for vulnerable population groups is not a common practice among producers and consumers

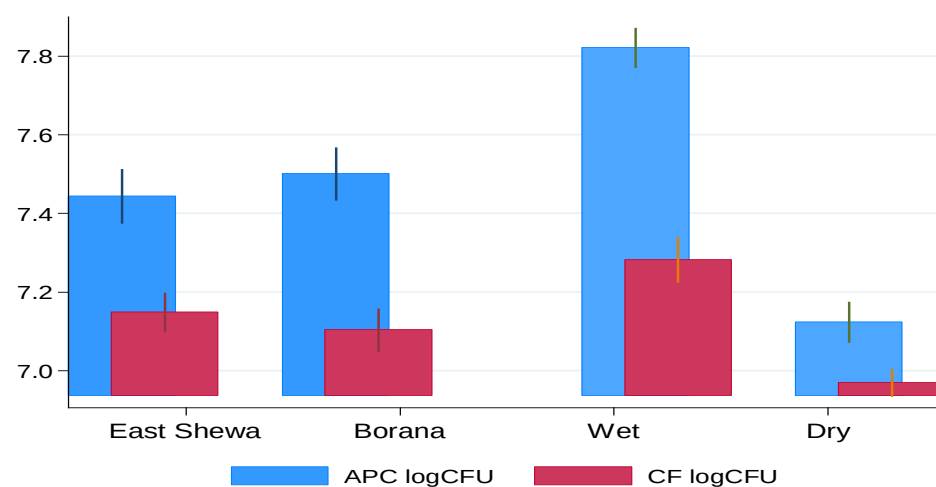


Fig. 2. Mean log₁₀ CFU/ml (APC and CC) in milk samples by zones and seasons.

APC values are higher than the EU standard (EC No 853/2004) for raw milk for other species ($\leq 1,500,000$ cfu/mL or ≤ 6.18 log cfu). The overall mean aerobic plate counts significantly increased in the wet season as compared to the dry season.

