

Camel Milk Value Chain Structure, Functionality, and Income Generation in Pastoral Areas of Borana and East Shewa, Oromia Regional State, Ethiopia

Abdulsamad Aman¹, Adem Kedir¹, Bekele Megersa², Regina Roessler³, Galgalo Dika⁴

¹Arsi University, College of Agriculture and Environmental Science, Asella, Ethiopia; ²Addis Ababa University, College of Veterinary Medicine and Agriculture, Ethiopia; ³University of Kassel, Animal Husbandry in the Tropics and Subtropics, Witzenhausen, Germany; ⁴Borana University, College of Pastoral Studies and Dryland Agriculture, Yabello, Ethiopia

UNIKASSEL
VERSITÄT



Introduction

- Camel milk is vital for food security, livelihoods, and income in arid and semi-arid regions.
- Key constraints include weak institutions, limited market access, and poor value chain linkages.

This study examines the organizational structure, functional performance, and income generation along the camel milk value chain in the Borana (BR) and East Shewa (ES) zones, Ethiopia.

Material & Methods



Pluralistic approach: Individual interviews, focus group discussions, and the administration of both structured and semi-structured questionnaires



386 producers, 20 collectors, 20 retailers, 2 cooperatives, 30 consumers, and 10 institutional stakeholders in Borana and East Shewa, Oromia Regional State, Ethiopia



Wet and dry season 2025/2026



Value chain mapping, marketing margin analysis, and others descriptive statistics as well as econometric modeling (multinomial logit models)

Results

- Largely informal camel milk value chain in both study zones, characterized by weak coordination, inadequate infrastructure, and limited institutional support
- Market participation: 47% of herders in BR (Fig. 1) and 69% in ES (Fig. 2)
- Milk marketing outlet choice influenced by various factors (Tab. 1)

Tab. 1: Average marginal effects on milk marketing outlet choice

Variables	LC	Coop	R	C
Zone	0.216	-0.048	0.286	0.277
Age of household head (yrs)	-0.001	0.000	0.002*	0.000
Family size (adult equiv.)	-0.007	-0.000	-0.007	0.007
Land holding size (ha)	.040**	-0.013	0.001	-0.007
Camel TLU	.001	-0.000	-0.000	-0.001
Total TLU	-0.001	0.000	0.000	0.002**
Number of lactating camels	.021*	0.032	-0.002	0.005
Avg. daily milk produced (L)	-0.009	0.009	-0.006	-0.008
Avg. daily milk consumed (L)	.001	-0.013	0.005	0.002
Avg. selling price (ETB/L)	.009	-0.002	0.000	0.010*
Distance to prim. market (km)	-0.000	0.006	-0.002	-0.003
Distance to sec. market (km)	-0.000	0.001	-0.000	-0.002***
Access to extension services	-0.204	0.034	-0.006	0.160
Access to milk price info.	-0.130	0.043	0.011	-0.183
Cooperative membership	-0.041	0.153***	0.036	0.048
Access to financial services	0.018	0.024	0.011	0.087*

Base outcome = LC (Local Collectors), Coop: Cooperatives, R: Retailers, C: Consumers



Fig. 1: Roadside camel milk marketing in BR



Fig. 2: Marketing of milk from ES in Addis Ababa

- Income distribution (GMMp%) ranges from 27.3% to 72.7% in BR and from 50.0% to 71.2% in ES (Fig. 3)

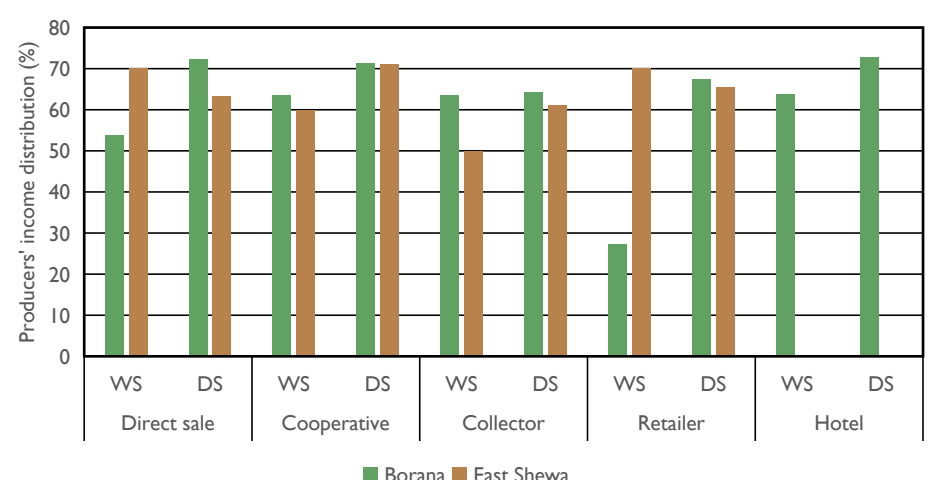


Fig. 3: Dry-season (DS) and wet-season (WS) producers' income distribution (GMMp%) by zone

Conclusions & Recommendation

- ES producers capture a greater value share, indicating a more efficient and equitable chain, while BR reflects inefficiencies and lower producer returns.
- Bridging the performance gap between BR's informal camel milk marketing systems and ES' integrated camel milk marketing system requires addressing shared infrastructure deficits, seasonal shocks, and coordination channels through targeted, multi-tiered strategies.

