Livestock keepers' objectives and the performance of dairy camels under two contrasting management systems in Ethiopia

H. H. Kalla[1], B. Wakjira[2], G. D. Godana[3], B. Megersa[2], R. Roessler[1]

[1] University of Kassel, Animal Husbandry in the Tropics and Subtropics, Germany
[2] Addis Ababa University, Dept. of Veterinary Epidemiology and Public Health, Ethiopia
[3] Borana University, Dept. of Natural Resources Management, Ethiopia

Introduction & Study objectives

Dromedary camels are essential to pastoral and agro-pastoral livelihoods in Ethiopia's arid and semi-arid regions, yet their reproductive and dairy performance across management systems remains poorly understood.

- This study evaluated the reproductive performance of dromedary camels and herders' production objectives and lactation management under extensive pastoral (EP) and peri-urban agro-pastoral production (PUAP) systems in Ethiopia.

Figure 1. Dromedary camel and calf in the Borana Zone, Ethiopia.

Material & Methods

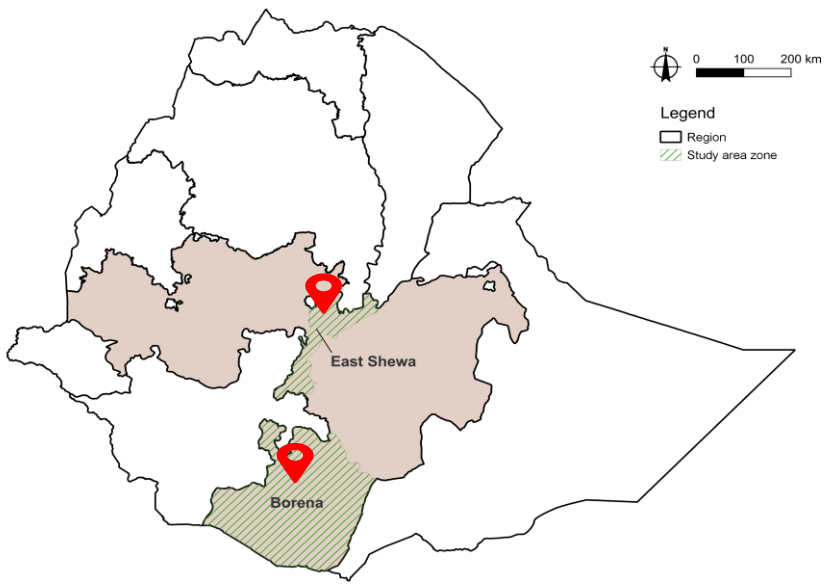

Figure 2. Study locations in Ethiopia.

- Study period: November 2024-October 2025
- Study animals: 135 lactating camels in 48 camel herds
- Data collection: Structured questionnaire
- Analysis: Descriptive statistics using R

Results & Discussion

Reasons for Keeping Camels and Herders' Production Priorities

- Milk production as the primary reason for keeping camels in both systems
- Combined with milkability in the EP system

Reproductive performance

- PUAP camels showed higher reproductive efficiency, characterized by: fewer matings per conception (1.8 vs. 2.3), more calves born (4.8 vs. 3.1), and fewer abortions (0.3 vs. 1.2) despite older age at first reproduction (Fig. 3)

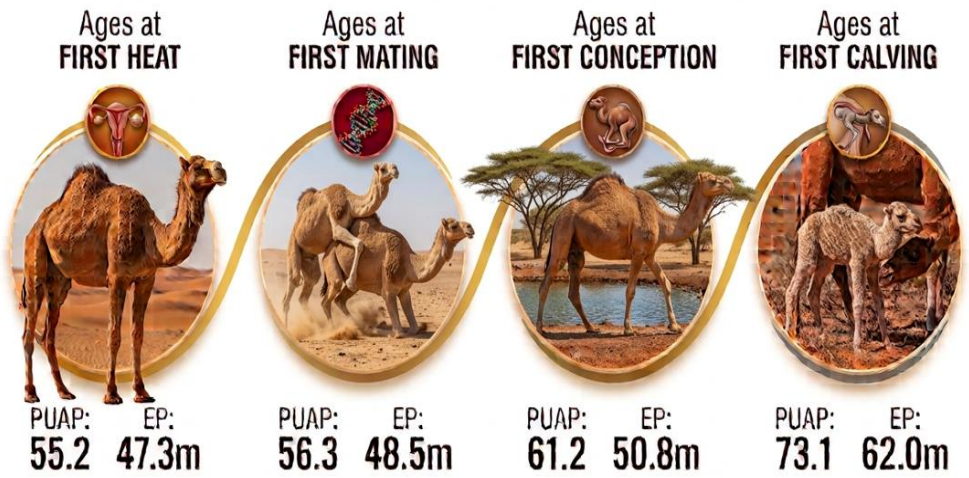

Figure 3. Dromedary camel reproductive cycle in the two contrasting production systems. Generated with Google Gemini, 2026.

Lactation Management

- EP camels had significantly longer lactation and milking periods than PUAP camels: 16.4 vs. 10.6 months and 16.7 vs 9.1 months, respectively

Conclusions and Recommendations

- The study demonstrates differences in reproductive performance between extensive pastoral and peri-urban agro-pastoral camel production systems.
- System-specific strategies are essential to unlock camel productivity in Ethiopia.

With support from
Federal Ministry of Agriculture, Food and Regional Identity
by decision of the German Bundestag

Project manager
Federal Office for Agriculture and Food

The project is supported by funds of the Federal Ministry of Agriculture, Food and Regional Identity (BMLEH) based on a decision of the Parliament of the Federal Republic of Germany via the Federal Office for Agriculture and Food (BLE).

Find out more athttps://goto.uni-kassel.de/go/suscami