

# Ancient farming styles and old zoonoses: brucellosis and Q fever among pastoralist and smallholder cattle herds in Tanzania



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## Introduction

Brucellosis and Q fever are old and well known zoonoses associated with livestock keeping. They are the cause of reproductive illness in ruminants and are associated with important economic impacts. Both diseases are widespread in the African continent. In Tanzania two main cattle herding styles co-exist: pastoralism (large and extensively raised herds) and smallholder (few animals under zero-grazing). The differences in management practices in both systems are likely to impact the spread and burden of these diseases. This poster outlines the methods and preliminary findings on prevalence and farming practices.

## Materials and methods

Project objectives: (i) estimate presence of these pathogens among cattle keeping communities in 2 different ecological zones in Tanzania; (ii) explore factors that may explain differences in burden and practices associated with zoonotic transmission



Map of TANZANIA showing study sites:  
 • Tanga region (Lushoto and Handeni Districts);  
 • Morogoro region (Mvomero and Kilosa Districts)



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153 cattle farmers interviewed  
 • **Smallholder** dairy farmer (intensive, few animals)  
 • **Pastoralists** (extensive, large herds)



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>400 **SICK** cattle:  
 • Serum sample  
 • Whole blood sample

**Q fever:**  
 • ID Screen® Q Fever Indirect Multi-species

**Brucellosis:**  
 • Brucella-Ab C-ELISA

## Results

Table 1. Seroprevalence results by category (preliminary findings)

	Brucellosis (# animals tested)	Q fever (# animals tested)
<b>Overall (among SICK cattle)</b>	11.7% (403)	15.0% (393)
<b>Region</b>		
Morogoro	15.3 % (190)	14.9% (181)
Tanga	8.5 % (213)	15.2% (211)
<b>Farming system</b>		
Intensive/semi-intensive	4.5% (89)	6.8% (88)
Pastoralist	14.8 % (237)	19.3% (228)

### Other relevant findings:

- **44%** of farmers reported **abortion** events in the previous year
- Most farmers report **low conception rates** (possible undetected early abortions)
- Less than 1% of farmers reporting brucellosis as “common” in the herd; Q fever disease (both animal and human) is unknown to vast majority of farmers
- 38% of farmers reported always **consuming raw milk** (primarily pastoralist) vs 52% consuming always boiled milk

## Food for thought

- Evidence of circulation of these zoonotic pathogens in dairy and pastoralist herds in the two regions in Tanzania
- Brucellosis and Q fever seroprevalence (among sick animals) 3 times higher in pastoralist farms than in intensively raised herds
- Lack of knowledge on presence and transmission pathways of both diseases, despite likely presence of clinically ill animals
- Evidence of risky practices for zoonotic transmission



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