

# An integrated approach to assessing and improving meat/milk safety and nutrition in the Ethiopian sheep and goat value chain

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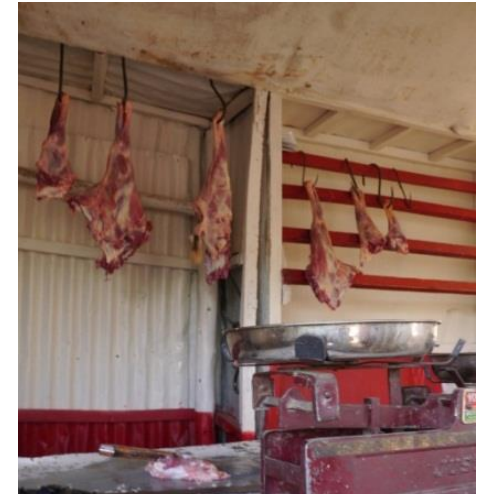
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# Introduction

- Animal-source foods in sub-Saharan Africa
  - majority produced by smallholder farmers
  - high nutritional value
  - important cause of food-borne disease
- Improving food safety
  - traditional policies are not really appropriate in these settings
  - trade-off with lost nutritional benefits
  - new risk-based approaches assess whether there is a genuine public health threat, and how to mitigate it



# Project aim

- Safe Food, Fair Food
  - rapid, integrated assessment of food safety risks and nutritional benefits within selected livestock value chains
  - identify areas for interventions and further work





# Methods

- Ethiopia and small ruminants
  - >80% human population lives in rural areas (WHO, 2011)
  - ~66 million sheep and goats (Negassa et al., 2011)
  - value chain has growth potential



# Methods

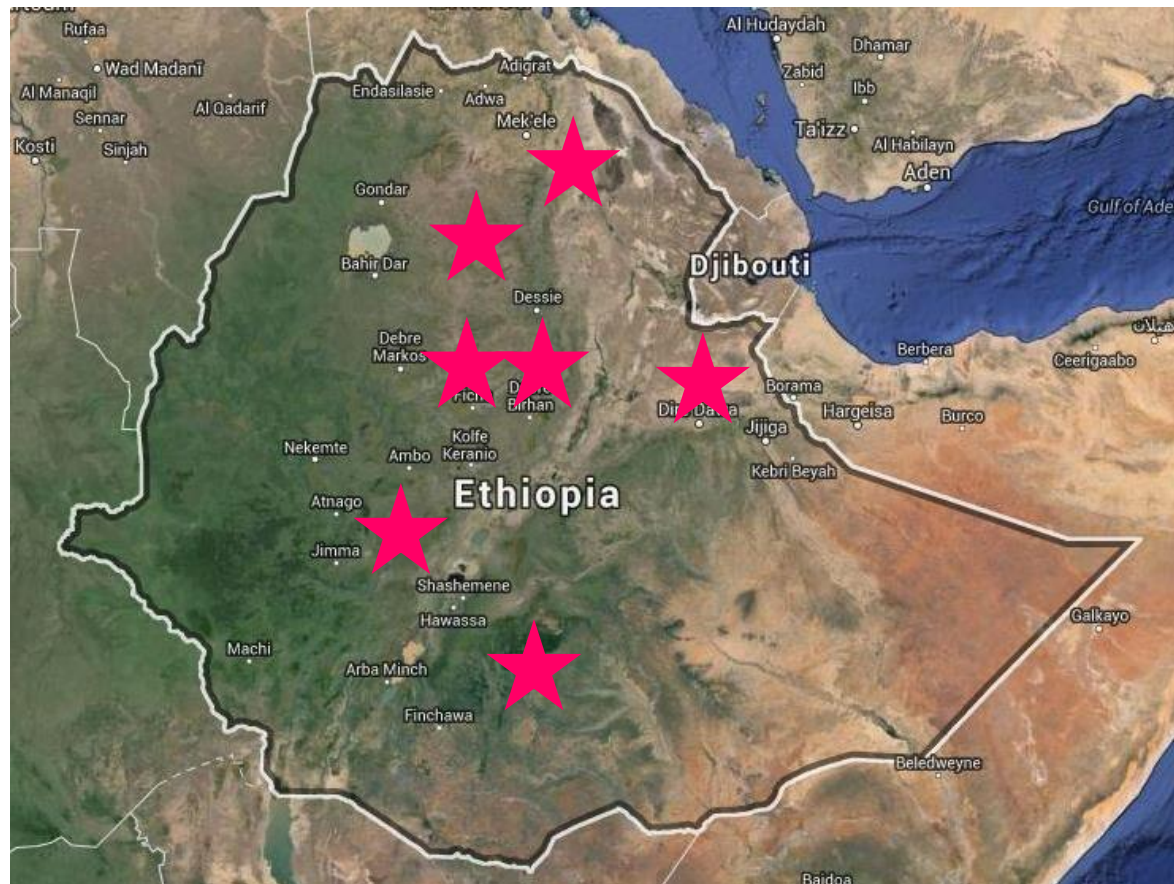
- Participatory techniques used
  - participatory rural appraisals (PRA) and focus group discussions (FGD)
  - rapid, cheap way to get information in data-scarce environment
  - engages communities as part of risk management/communication
- Topics covered
  - meat/milk production and consumption, food safety and quality, food preparation
  - also animal health, zoonoses





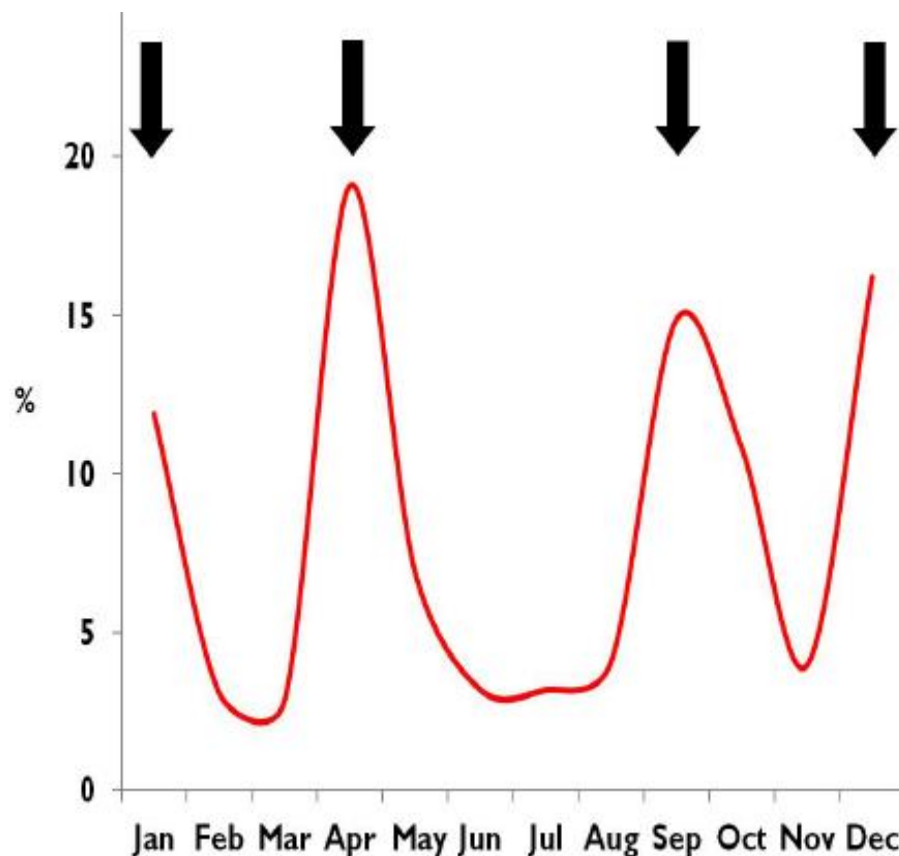
# Methods

- PRA and FGD with producers and consumers at seven rural sites



# Results: meat

- Peak production and consumption during major festivals (arrows)
  - extensive fasting periods
  - reliance on small ruminants as 'walking cash'
  - home slaughter
- One exception
  - pastoral site in southern Ethiopia where meat frequently consumed



Percentage of annual meat consumption

# Results: meat

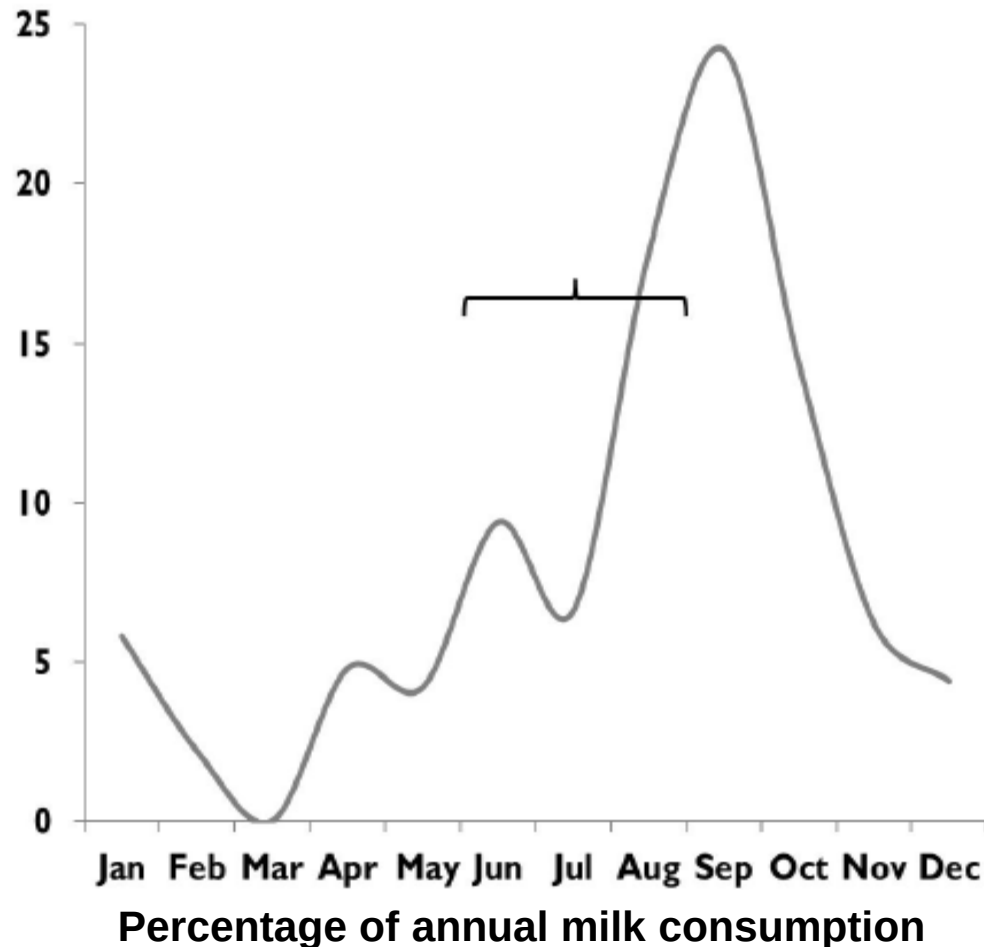


- Risky preparation/consumption habits:
  - eating raw meat/offal
  - eating sick animals
  - possible cross-contamination
- Risk-mitigating practices:
  - hygiene at slaughter
  - meat freshly cooked (minimal storage)
  - often cooked thoroughly



# Results: milk

- Production and consumption highly seasonal
  - peaks after the long rains (bracket)
  - fasting
  - productivity limitations
  - community/local distribution
- Important food for children



# Results: milk

- Risky preparation/consumption habits:
  - drinking raw milk (varied by site)
- Risk-mitigating practices:
  - discarding abnormal milk
  - boiling milk
  - fermentation?
  - cultural taboo preventing consumption



# Conclusions: meat

- Reduced exposure to hazards in rural areas
  - infrequent consumption of sheep and goat meat
  - nutritional losses >> food safety risk?
  - further work to determine impact
- Some areas at greater risk of food-borne disease
  - pastoral sites
  - meat seems to be eaten more frequently in richer urban areas





# Conclusions: milk

- Exposure to food-borne hazards occurs more frequently
  - mitigated by simple interventions (boiling)
  - risk to children drinking directly from animal
- Also an under-utilised source of animal protein
  - production limitations
  - cultural elements



# Conclusions: Ethiopia

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- Trade-off between food safety and nutritional benefits occurs within sheep and goat value chain in Ethiopia
- Further research into food safety risks warranted, including at other points in the value chain
- Improving livelihoods by increasing intake of animal-source foods is a complex problem
  - increased production (milk>meat)
  - improved economic status (meat>milk)
  - religious/cultural factors
  - increased consumption → increased risk

# Acknowledgements

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# CSRS

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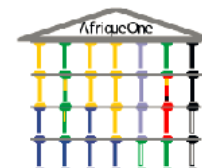


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