Lambs to the slaughter

Are meat and milk from small ruminants a health risk to Ethiopians?

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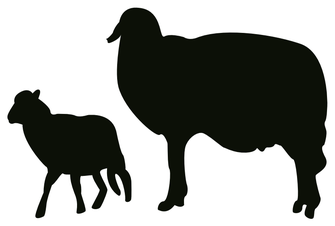
Introduction

Smallholder farmers produce the majority of animal-source foods in sub-Saharan Africa. These foods boast a high nutritional value but are also the most important cause of food-borne disease. Whereas traditional food safety approaches tend to ban any product containg hazards, new risk-based approaches try to assess whether there is a genuine threat to human health, and if so, what can be done about it. The Safe Food, Fair Food project aims to apply risk-based decision-making to improve food safety and nutrition – and ultimately, livelihoods of poor producers and consumers - within selected livestock value chains.

In Ethiopia, the focus is on the small ruminant sector, which involves an estimated 48 million live animals. Over 80% of the human population lives in rural areas, where subsistence farming is common. Diarrhoea and nutritional deficiencies account for almost 15% of the disease burden nationally.

Participatory techniques are a fast and inexpensive way to procure valuable information in a data-scarce environment, and engage communities in risk management and communication. This study utilises these methods to perform a rapid assessment of food safety risks, and nutritional benefits, within the small ruminant value chain in Ethiopia, and identifies areas for further research and interventions.



Methods

Participatory rural appraisals (PRAs) and focus-group discussions (FGDs) were conducted with groups of rural producers and consumers at eight representative sites in agricultural and pastoral regions. The PRAs involved the use of counters (beans) and other visual aids to gain information on topics such as seasonal production and consumption patterns, animal health and zoonoses, awareness of food quality and safety issues, and cultural practices affecting food safety and nutrition. The FGDs were held with mothers of young children, and concentrated on intake of animal-source foods by children, and food preparation.

Results

Meat

- At most sites, consumption limited to 2-5 occasions per year, due to economic pressure. Production and consumption peaked at times of major religious and national festivals (Fig. 1).

- High rates of sheep and goat ownership. Animals slaughtered at home by farmers, then consumed. Poor consumers in rural towns purchase live animals and do the same.

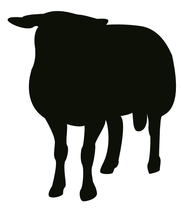
- Risky preparation and consumption practices included eating raw meat or offal, eating sick or dead animals, and cross-contamination (especially after cooking). Many of these were reported by pastoralists.

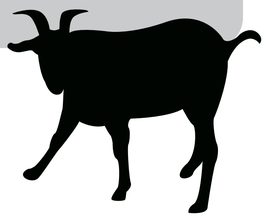
- Risk-mitigating practices included minimal or no storage of fresh or cooked meat, and thorough cooking of meat before eating.

Milk

- Milk production was associated with lambing/kidding periods, but volume was limited by feed availability. Peak consumption occurred after rainy season, when feed was abundant (Fig. 1).

- Drinking of raw milk was the main risky consumption practice. Risk-mitigating techniques included boiling and fermentation.





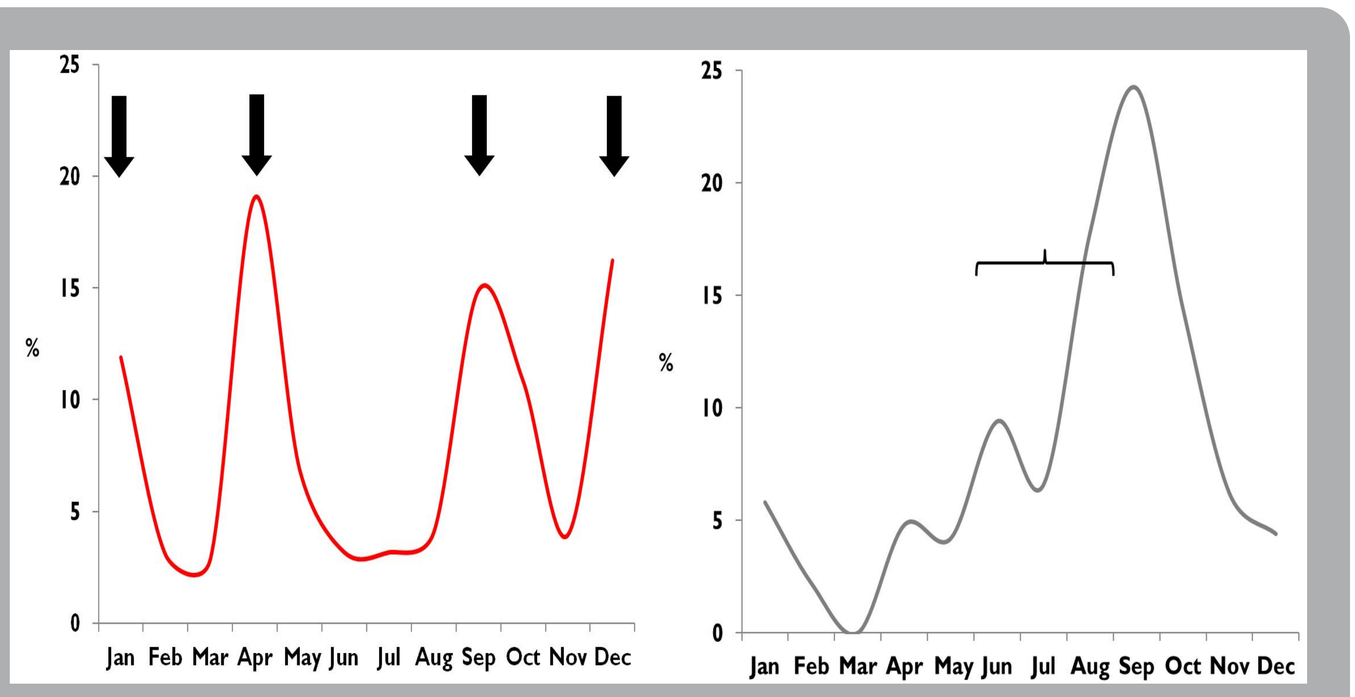


Fig. 1 Distribution of annual consumption of meat (left) and milk (right). Arrows indicate timing of major festivals. Bracket indicates main rainy season.

Conclusions

- In many rural communities in Ethiopia, consumption of small ruminant meat is rare. This reduces the risk of exposure to meat-borne pathogens. Further work should focus on increasing intake of animal-source foods, as nutrient deficiencies are likely to represent a greater risk to the overall health status of these communities.

- In pastoral areas, risky practices such as consumption of raw meat, or meat from diseased animals, overlap with year-round meat consumption. At these sites, further research into hazard identification and potential food safety interventions is warranted.

- Small ruminant milk can present a risk of foodborne disease, but is under-utilised as a food source in some areas. Interventions to promote safe consumption practices, and improve coordination of lambing/kidding seasons with times of peak feed availability, could reduce current health risks.

- Improving livelihoods of value chain actors through increased production and consumption of small ruminant meat and milk, while minimizing the associated risks of foodborne disease, is a complex task that requires an integrated, multidisciplinary approach.

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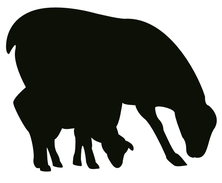

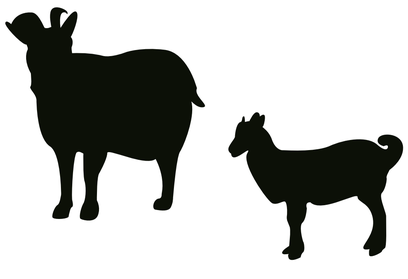

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