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Food safety awareness and practices in urban and rural butcheries and eateries in northern Tanzania



Zoonoses &
Emerging Livestock Systems

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Contents

- Zoonoses (*Salmonella* and *Campylobacter*) in East Africa
- Actors in the last step in the meat value chain
- Research methodology
- Four patterns:

Who are they? Their views? Their practices? Regulations?



Researching zoonoses

- ZELS brings together 6 donor agencies: £ 20.5 million (\$47m)



- Engaging 49 research institutes across the globe...
- collaborating in 10 countries in Africa and South Asia,
- in 11 multi-annual research projects,
- HAZEL (**H**azards **A**ssociated with **Z**oonotic enteric pathogens in **E**merging **L**ivestock meat pathways) is one of these 11 projects

Specific objectives of HAZEL

- Describe meat value chain from 'beast to bowel'
- Establish where contamination occurs or amplifies
- Determine effective and acceptable interventions



Last step in meat value chain: selling meat to consumers

This presentation reports about on-going HAZEL research (2015-2017) in northern Tanzania (Moshi). In particular:

Food safety awareness and practices in the critical last step in the meat value chain; where meat is sold to consumers.



Regulated & inspected	Unregulated & tolerated
Slaughter slabs (also abattoir)	Home slaughter
Urban and rural butcheries (raw meat)	Informal eateries - <i>mama lishe</i>
Urban and rural eateries (cooked meat)	Kebab sellers - <i>mishikaki</i>
Supermarkets	

Selling meat in Moshi...

One example of an urban butchery



<https://www.youtube.com/watch?v=eWKg-iwsSh8>



Methodology

- Non-participant binary observation (present/absent), 14 items:
 - buildings, tools (electricity, water, soap, etc.)
 - practices (meat covered, fly-control, etc.)
 - environment (shade, domestic animals, etc.)
- Semi-structured interview, 16 questions:
 - views on meat value chain and business
 - practices to ensure food safety
 - regulations on food safety
 - experiences and views re food safety shocks



Sample (T=64)

	Urban	Rural
Butcheries	17	15
Eateries	17	15



Sampling

Locations	Moshi Municipal Council (urban), Moshi District Council (rural)
Size	About 5% of rural district's butchers included. Others unknown.
Randomisation	Partial: five wards in each council randomly selected. Within those wards, local authorities advised on six actual interviewees.

On-going and parallel research

- Interviews with retired butchers to counter selector-bias
- Collection and analysis of micro-biological samples
- Interviews with the other “last step in the value chain businesses”



Please note; data underpinning the patterns shown in this presentation arrived only on 28 November.

Patterns being served to you now are partial and under-cooked.



1st pattern: Who run butcheries and eateries?

Gender

- Running any butchery seems an exclusively male domain.
- However, about one third of the urban and rural eateries appear to be run by women.

	Gender			
	Urban		Rural	
	Men	Women	Men	Women
Butcheries	100%	-	100%	-
Eateries	71%	29%	66%	33%



1st pattern: Who run butcheries and eateries?

Experience

- Majorities of urban and rural butchers have been in business for more than six years – often decades; it seems a life-time career.
- In contrast; about half the people running *urban* eateries have less than three years – often only months. A transient job.

Experience in the business								
	Urban				Rural			
	<3 years	3-6 years	>6 years	na	<3 years	3-6 years	>6 years	na
Butcheries	6%	24%	71%	-	7%	13%	60%	20%
Eateries	47%	18%	35%	-	20%	13%	53%	13%



2nd pattern: Views on the meat value chain

Stability and instability in supply relations



- When it comes to purchasing from one trusted supplier *or* buying cheapest at any auction, most urban butchers prefer auctions.
- As for rural butchers, nearly all seem to purchase cheapest cows or goats any supplier offers at auctions or at their door.
- In marked contrast, most urban and (to some lesser extent) rural eateries supply themselves with meat from one, trusted, supplier.

From who do you buy your animals or meat?								
	Urban				Rural			
	Same supplier	A couple suppliers	Cheapest at auction	na	Same supplier	A couple suppliers	Cheapest at auction	na
Butcheries	35%	-	59%	6%	7%	-	87%	7%
eateries	71%	12%	6%	12%	53%	7%	33%	7%



2nd pattern: Views on the meat value chain

Stability and instability in sales relations

- When asked to who they sell their meat, all four groups of actors in the chain show a similar pattern:
- Majorities (65-80%) sell to any customers in their neighbourhood or passing by without knowing or catering to specific demands.
- However, the minorities stress the value they see in having and expanding personal and stable relations with specific customers.



Who do you sell your meat to?						
Urban				Rural		
	Mostly same customers	General neighbourhood	na	Mostly same customers	General neighbourhood	na
Butcheries	29%	71%	-	33%	66%	-
eateries	35%	65%	-	20%	80%	-

3rd pattern: Practice to ensure meat safety

“If I look at the cows, I can notice poor and good ones.”



- Virtually all urban and rural butchers primarily rely on their personal observation skills to determine if meat is safe.
- In contrast, only about half of the eateries say they rely on their personal observation skills to assess meat safety.
- In terms of active food safety-conscious measures, about half the eateries rely on boiling meat for at least 45 minutes.
- Few other active measures are mentioned. (Maybe “cleaning”.)

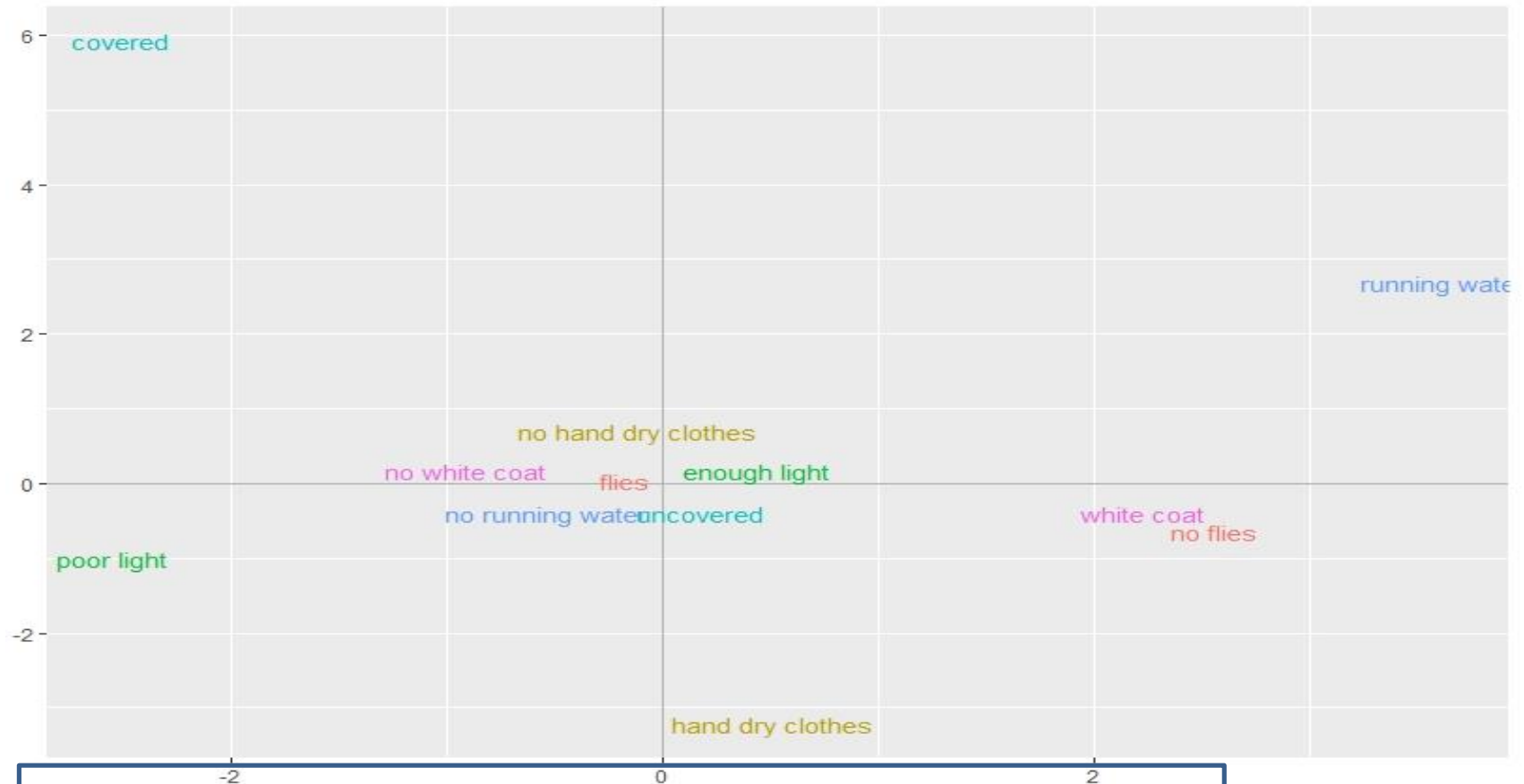
	What do you do to make your animals/meat are safe for sale? ¹⁾					
	I inspect it myself	I trust the official stamp	I trust my supplier	Protection & cleanliness ²⁾	Refrigerate / boil it	na
Urban butcheries	15	2	2	3	-	-
Rural butcheries	14	3	-	1	2	-
Urban eateries	10	2	4	3	7	1
Rural eateries	7	1	4	2	7	1

¹⁾ Multiple mentions by one interviewee are possible.

²⁾ Few mentioned “cleaning” when asked about keeping meat safe. However, when asked about routines, between 73-82% mentioned cleaning but mostly connected to meeting customer expectation, rather than food safety.

3rd pattern: Practices to ensure food safety

Early Multiple Correspondence Analysis (MCA) of 64 non-participant binary observations in butchereries and eateries suggests:



Legend:

- Variables around the centre are the most common.
- If they are closely together they tend to occur together in observations.

4th pattern: Regulations

Butcheries and eateries are in regular contact with officials. These relationships are critical for effective public health policies.

Livestock Officers (LO) – whose stamp on meat is required for its sale – feature prominently in the interviews.



Reminder: interviewees were suggested by LOs.

- Except rural butchers, majorities in other groups noted carefully balanced opinions about the relation with officials. Many said, “Our relationship with them is good” – before listing troubles.

“If the authority wants me to fix glass all over the place I will do it, I don’t want to invite misunderstandings.”

“All of them are friends and only a few of them are aggressive.”



4th pattern: Regulations

- Some urban butcheries and eateries expressed clear negative views on their relationship with officials. Rural ones hardly.

““My relationships with most of the visitors are not good at all, they come coercing us, threat us making us fear so that we can give them bribes. They don’t come to educate us...”

- In fact, it seems rural butcheries and eateries underscored much more often positive, educational, relationships.

“They are good people because they educate us.”

How do interviewees describe their relationship with officials?								
Urban					Rural			
	Positive	Negative	Neutral	na	Positive	Negative	Neutral	na
Butcheries	6%	29%	65%	-	60%	7%	33%	-
eateries	12%	29%	59%	-	40%	7%	53%	-

Next steps...

- Make a complete analysis of patterns emerging from data.
- Cross-check and discuss these patterns from individual interviews and observations with stakeholder group interviews early 2017.

Thank you.
Asante sana.

