

## **Description of interview data in “Perceptions and practices among Zambian sheep and goat traders concerning small ruminant health and disease”**

### **Short description of the interview situation**

The data was mainly collected through semi-structured interviews that were conducted in April, May and September 2018, and November 2019, at the two largest small livestock markets in Zambia, i.e. Lusaka and Kasumbalesa small livestock markets. The Lusaka market was visited in April, May and September 2018, and November 2019, while Kasumbalesa was only visited in September 2018. In total, 21 days were spent at the Lusaka market and four days at the Kasumbalesa market. At Lusaka small livestock market, we interviewed 35 traders, five slaughterhouse workers, four transporters, four veterinary shop workers, three SLAZ employees and twenty market customers, whereof two originated from the DRC, two were farmers buying for breeding purposes and sixteen were buying for consumption. At Kasumbalesa small livestock market, we interviewed 12 traders and nine market customers, whereof eight were from the DRC and one a farmer from a nearby town. In total, we performed 112 interviews, whereof some were repeated interviews conducted with informants where the initial analysis had revealed that more information was needed. The interviews were generally performed individually, but sometimes also in groups, and varied in length from about two minutes to up to an hour. To ensure participant anonymity, care was taken to not record names, contact details or other kinds of personal information that could lead to the respondent being identified.

### **Interview themes**

The interview themes differed between different categories of respondents. The themes that were covered also differed between respondents in the same category, for example due to differences in the amount of available time for the interview. Here follows a general description of the themes as well as a few examples of the answers provided by the respondents. Some of the answers have undergone slight editing to ensure anonymity and clarity.

### **General respondent information**

Included e.g. respondent gender, first language and where the respondent lives. The respondent was also asked if he or she was a farmer, and if so what he or she farms.

*He is a farmer of goats, cattle, chicken, guinea fowl and pigs, living in Southern province. In addition to farming he is also a trader, the last time he went to Chibolya was this Monday. Usually he comes to Chibolya every 2-3 months.*

Trader

### **Market and trade routines**

The respondents were asked how often they visited the markets, if they also visited other markets, and what their purpose of the market visits were. If the respondent had transported animals to the market he or she was asked about this process. If the respondent had bought one or several small ruminant(s) at the market, he or she was asked about the purpose of this purchase. Respondents were also asked what they looked for when they bought sheep and goats, etc.

*The trader is from a village in Southern province. When he wants to sell animals he hires people to help him walk to the nearest town, which takes three hours. They leave around 03 in the morning. They arrive in town around 06, and then he either calls a transport contact or goes to a meeting place where everyone who wants to hire transport gathers. He then hires transport and leave for Lusaka.*

Trader

*I ask what she is looking for in the sheep that she buys. She says she wants them in high quality. When I ask her to specify what she means she says she wants them healthy and fat.*

Trader

*In a day he will sell about 5 animals if business is slow, 10 if it is a busy day. I ask how many he will usually have left at the end of the day, he says 5. An animal can stay with him about 4-7 days if business is slow.*

Trader

*When do you sell more goats? After Ramadan, Christmas, new year, and other holidays*

Trader

*He buys female goats that has not yet have had kids and castrated male goats. The reason for this choice is the meat quality and taste. He buys maybe 10 goats and keep them at his home and slaughter about 1-2 animals a day, depending on how good the business is. He keeps them in his home for up to 5 days, sometimes longer.*

Restaurant owner

*He is at the market five days a week and sells 1-2 sheep a day. Some other people, mainly the ones who are selling goats, pigs and chicken, goes to the market every day.*

Trader

### **Mapping of animal movement**

Included e.g. origin of the sheep and goats sold at the market and the final destination of the ones that were bought. Respondents were asked about origin and final destination of animals present on that day, but were also asked to estimate proportions, etc.

*When asked to specify where the animals come from he says that Southern province and central province are the most common ones. He also sells goats from Western province, Eastern province... actually they can come from any province. He sells animals that are from Zambia. However, he does sell to people from the DRC and Angola.*

Trader

*I ask her to list and rank where she gets goats from;*

- 1.Southern province*
- 2.Eastern province*
- 3.Central province*

Trader

*Regarding farmers who buy goats at the market to keep; These are farmers that are looking for specific breeds. He has sold to Kabwe (central province), Mombwe (central province) and Chongwe (Lusaka province)*

Trader

*He does not import goats or sheep to Zambia, but he does export. About 5/10 goats that he sells goes to the DRC, 2/10 to Angola, 3/10 to Zambia.*

Trader

*I buy goats at the Kasumbalesa market and then take them to Lubumbashi, where they are re-sold. The majority are slaughtered but some are bought by farmers*

Buyer

### **Small ruminant health and disease**

Included e.g. what the respondent examined to determine if a sheep or a goat was sick or not, causes of clinical signs, what clinical signs the respondents observed at the market and in trade, severity of clinical signs, impact of clinical signs and actions of the respondent if a small ruminant was displaying clinical signs, etc.

*No sick goats will make it to the markets because of the stock movement permit*

Trader

*What diseases can a goat have and it is still OK to sell? She says she could never sell sick goats! She treats them with Ivomec and waits for them to recover, then she*

*sells them. If they have a runny nose she gives them ivomec and sells them. If they have diarrhea she gives high-tet and sells after they have recovered. Also with coughing she treats them with High-tet.*

Trader

*I ask if he has ever bought sick goats or sheep. He says yes, many times, he usually buys the ones with skin disease. It is caused by rains, mostly in the ones who do not have access to shelter. I ask if he has ever sold sick goats and sheep. He says he hasn't. I then probe for what he would do if someone really wanted to buy a sick one. He says he shouldn't sell it because many of them are sold for consumption and humans might get sick. He knows however that many of the others sell sick goats. He also says other people will often sell and buy dead bodies. He also sells bodies of goats that have died on their own, the people he sells to tell him that they are buying for their dogs. These goats are sold very cheap.*

Trader

*I ask how he feels when he sees sick animals? He says he feels bad because it affects his business.*

Trader

*I can tell when a goat is coughing because it is sick and when it is coughing because it is dusty outside. I can't explain how I do it, I just know.*

Trader

*It is OK to sell goats that are coughing and have runny nose, because it is often caused by dust. It is also OK to sell goats with diarrhea because it is easily treated. It is not OK to sell goats suffering from skin disease because it is difficult to treat.*

Trader

*"I know selling sick animals is wrong, but what can I do? I don't have the ability to treat them like I would if my goats at home got sick. I can't transport them back home because it's too expensive. My only option is to sell them to avoid losing money."*

Trader

### **Model peer**

Traders were asked to describe a good trader

*I ask what it means to be a good trader. He answers that a good trader is someone who can relate to costumers and be good to them, even if they are rude. A good trader will also keep the environment clean to attract costumers and have nice looking goats that sell quickly.*

Trader

*Being a good trader means making sure that the animals are clean and healthy, i.e. fat looking, so that they can attract a customer.*

Trader

### **Slaughter**

Respondents involved in slaughtering animals were asked about relevant training, clinical signs observed in the animals before slaughter, macroscopic abnormal findings on meat and organs after slaughter, the slaughter procedure, perceived risks associated with the slaughter procedure, etc.

*Do they ever see any sick goats/sheep come in to be slaughtered? Yes, runny eyes and nose sometimes. They don't see any other diseases. It is usually caused by the truck driving too quickly or it being cold outside. If they see it they will usually slaughter it quickly to prevent it from spreading to the other goats/sheep. It is uncommon for goats to get sick!*

Group of slaughterers

*They don't see anything strange on the meat, sometimes they see strange things (sores) on the intestines. They also see damaged livers, and if they cut the livers they sometimes see earth worms. Sometimes they also see strange lungs, they are watery and very soft. In these cases the ribs are sometimes also affected. What do you do when you see the things above? They tell the owner that the organ is not OK, they let the owner decide what to do with this. Often they throw away the affected organ but the rest is given to the owner as decided. They will advise the owner to throw away the affected internal organ and only keep the meat. Most of the times the owner will listen to their advice.*

Group of slaughterers

### **Transport**

Respondents were asked about the process of acquiring a stock movement permit, the inspection of transfer permits on route to the market, transport conditions, frequency of injury and death of animals during transport, etc.

*He has never experienced the animals being injured during the trip. I ask if they sometime die, he says it can happen when it is very hot outside. He says that the animals don't usually die from the climate or overloading but from when they are handled roughly during transport. If an animal dies he will share the costs with the original owner since he feels a responsibility when he is transporting them. For a goat that is worth 500 ZKW he will pay 250 ZKW. Also, he will sell the dead body for 100-150 ZKW (a low price), mostly because he feels for the owner and wants to limit their loss. He himself has money and can deal with the extra costs, but many of the farmers don't. The ones who buy these dead goats are usually people having braai stands at bars, they don't care and also the people who buy from them are drunk and don't care either.*

Transporter

**Public health, zoonotic disease spread**

Included questions regarding the consumption of animals with clinical signs at the time of slaughter or that had died on their own.

*Other times he cant be sure just by looking at them. I ask when it is ok to eat dead animals; he says when they die from overeating and non-bloody diarrhea. When they open up animals that have died on their own he thinks it is ok to eat the meat if it the meat is healthy looking, i.e. it should not be green because then it is rotten. Also, if the meat is like a pillow it should not be consumed. On the organs, if it has dark spots on it it is bad, and then the whole animal should be burned because then the meat is also bad. However, in some cases if the organs are bad looking but the meat looks fine, he will only remove parts of the bad organs or parts of the meat and the rest can be eaten.*

Trader

*Can humans get sick from diseases in animals? No she says, because she boils the meat before eating it.*

Trader

*I ask if animals can have diseases and give to humans, to which his answer is no. When I ask if eating meat from a sick animal is a risk he says no, as long as the intestines look ok there is no risk to eat the meat.*

Slaughterer

**Knowledge**

Included questions aimed at discerning the knowledge levels of the respondents concerning e.g. causes of clinical signs, risks related to trade and consumption of sick animals etc.

*When asked of whether he knows how diseases are spread he says airborne, nothing else. I then ask him if animal trade can contribute to spread? He says no, at least not immediate, maybe at a later stage*

Trader

*He doesn't know how diseases are spread between goats. When asked if he thinks trade can contribute to disease spread, he says it can make the disease go to where the animals are going. He also says humans can get sick from the disease. When I ask him how humans can get sick, he says by eating meat from sick animals.*

Trader

*Can trade contribute to spreading disease? Yes, especially for FMD she says.*

Trader

### **Data storage**

The interview data will be archived at the Swedish University of Agricultural Sciences (SLU), in accordance to the principle of public access to information ("Offentlighetsprincipen"), as stated in the constitutional Freedom of the Press Act ("Tryckfrihetsförordningen").