

Animal welfare scoping study report

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CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Agricultural Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes.

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Acronyms and abbreviations

AMR	antimicrobial resistance
ETB	Ethiopian birr
ICARDA	International Center for Research in the Dry Areas
ILRI	International Livestock Research Institute
KAP	Knowledge, Attitudes and Practices
LFRDO	Livestock and Fisheries Resources Development Office
UoM	University of Melbourne

Introduction

The ILRI and ICARDA gender team with the support of the CGIAR Research Program on Livestock Strategic Investment Fund piloted a community-based gender transformative approach called 'Community Conversations'. The community conversations aimed to engage a cross-section of community members and local partners in dialogues around gender, women's livestock ownership and zoonotic diseases.

In addition to the gender and zoonoses module, the team expanded community conversations to include animal welfare and antimicrobial use and resistance. ILRI in partnership with the University of Melbourne developed an animal welfare community conversation module. To test the module and learn about animal welfare issues in the field, we made a visit to one of the CGIAR Research Program on Livestock sites, Doyogena district, Ethiopia, on 5–7 March 2019.

With the aid of an interview checklist, we had discussions with local partners, participated in the closing and sharing of previous community conversations, and interviewed some households at their homesteads or farm, giving us the opportunity to observe resource situations and some of their animals. We also talked to a group of school-age children to understand how they perceive animal welfare.

This report collates the most important points about farmers' and veterinary service providers' perceptions of animal care, the farming system in Doyogena and the animal production and welfare issues faced by farmers.

Detailed notes from a discussion with the Ancha Sadicha community conversation group, eight farmer interviews at Hawora Arara community (two of the respondents were female), and a meeting with the Livestock and Fisheries Resources Development Office (LFRDO) that form the basis of these summaries are also included.

The report concludes with a table (Table 2) of recommended animal welfare issues that can be the focus of the community conversation animal welfare module.

Perceptions of farmers and veterinary service providers on animal care

When asked about what makes their animals happy or sad, the respondents' focus was strongly on feed. Happy animals were those that had full bellies and good feed. Animals were sad when they didn't receive these things. All of the people we spoke to, including children, readily described situations when animals were happy and sad. This reflected a belief that animals could experience these feelings. When describing animal conditions, all of the respondents recognized that providing adequate feed and water, and good health were critical for happy animals, which matches a definition of welfare based on biological functioning. A number of respondents also described some behavioural needs for animals to be happy (such as freedom to graze, play and interact, calmness, gentle touch during handling, routine and movement) which relates to a natural behaviour definition of welfare, and there were a few descriptions, particularly when further prompted through discussion, of situations relating to negative affective states of animals.

Farming challenges

Providing adequate feed to animals was the primary concern of all respondents. Water was also a consistently mentioned challenge. The discussions occurred during a particularly difficult time in the production calendar (dry season), which influenced the participants responses. Families do not have a large number of animals, and all grow their own wheat and Enset, which they use for animal feed along with grazing. Quantifying the nutrition available for animals throughout the year by reviewing the literature or doing an assessment would give a more thorough picture of available feed and water, and the animals' nutritional status overall.

Household roles

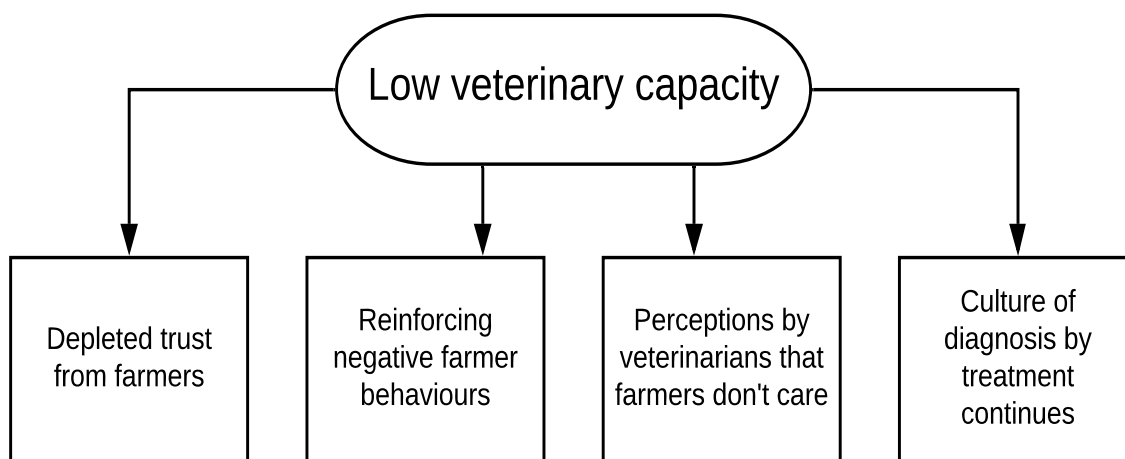
At the time of our visit, many of the cows were dry (not producing milk). Traditionally, milking and cleaning are women's jobs and feeding/collecting feed are men's jobs. However, interviews and community conversations indicated that women and men sometimes share these responsibilities.

Needs and issues of veterinary support

Farmers reported that veterinary support came from government veterinarians/service providers and this was not often described as a key constraint.

- Farmers described government veterinarians as their primary source of assistance. However, the district government group indicated that farmers often try to treat their animals first, before turning to government veterinarians. District veterinarians were present during farmer discussions, which might have influenced farmers' responses. —Overall, farmers did not describe general or specific animal health issues as being major constraints.
- LFRDO veterinarians described health and capacity as the key constraints, with the majority of the conversation focusing on capacity and the impacts of this on farming in the region (Figure 1; full details page 12). Farmers, however, described feed as the major constraint. These conflicting responses reflect the challenges and focus of each group—farmers and veterinarians—in their daily activities.

Figure 1: Described impacts of low veterinary capacity; notably, all contribute to both reduced animal welfare and increased risk of antimicrobial resistance (AMR)



Characterizing the farming system

Typical households in this area have two cows, up to four sheep and one donkey (Figure 2). Animals are kept in the house or stabled nearby overnight and then let into the house block during the day (Figure 3). While housed and fed at the home, relying on a cut-and-carry system (Figure 4), animals are also let out for grazing. The timing of our interviews made it difficult to observe the animals. According to the farmers, free grazing is particularly common at this time of year when crops are not planted and feed is scarce. This time of year (December–March, pre-rainy season) is when farmers experience the biggest feed shortages. The best time of year for animal feed supply is October.

Figure 2: Animals at home before grazing



Figure 3: House block where animals are tethered



Figure 4: The morning's Enset feed



Figure 5: Enset and cabbage plots



Table 1: Feed available in the household

Feed type	Source	Use	Availability	Feed quality ¹
Enset (<i>Enset ventricosum</i>) (Figures 5 and 6)	Homegrown; some farmers occasionally purchased (150–250 Ethiopian birr (ETB)/stand)	Base/root for household nutrition; leaves, stems for animal feed	Year round	Corms: high energy, low protein Leaves: good water source in dry season, crude protein 13–14% of dry matter
Cabbage (Figure 5)	Homegrown	Household consumption	Year round	Not used for animal feed
Wheat	Homegrown	Grain for household consumption; straw for animal feed; also, stubble grazing	Seasonal (in rotation with potato)	Grain (if fed): high energy, good protein Straw: good fibre source
Potato	Homegrown	Household consumption	Seasonal (to plant in the coming month)	-
Desho grass [<i>Nigeria grass</i> (<i>Pennisetum pedicellatum</i>)] (Figure 6)	Homegrown	Animal feed	Small quantities only grown	Low quality forage, better when fed young (which is what farmers do) ² ; low crude protein
Commercial products	Purchased from market (price unknown)	Animal feed	Used during times of shortage and for ram fattening	Unassessed
Grazing	Free communal access	Animal feed	Year round, but scarce in dry season	Unassessed

Figure 6: Desho grass and Enset plantation—a resource-rich farm



1. Interpreted from <https://www.feedipedia.org/>

2. <https://livestockfish.cgiar.org/2017/02/28/desho-grass-asmare/>

Community discussion on animal welfare

05 March 2019

At the end of the gender and zoonoses community conversations closing and sharing event in Ancha Sadicha, parallel to the field visit, we asked the group (54 men and 25 women) some questions regarding animal welfare. The questions and answers are summarized below.

What are your priority issues/constraints when caring for your animals?

1. Feed
2. Health support/access to services
3. Water
4. Shelter
5. Breed improvement

When prompted, mortality and lameness were not described as issues; however, 20% mortality for sheep has been reported in this region.

Which of your animals are the most important?

Cattle are the most important: cows provide nutrition to the household, and birth of young animals is important for growing the herd or for sale. Males are used for field ploughing and so are a critical tool for agricultural production. Sheep are the next important, but they are not a focus of this region.

What is the most time consuming livestock activity affecting you every day?

Feed preparation and cleaning is the biggest job. Men usually collect and prepare the feed. Women help prepare and clean the animal pen.

'We care more for our animals than for people. We take a lot of time and resources for our animals: cleaning daily, feeding and providing water.'

Figure 7: Community conversation at Ancha Sadich



Farmer interviews

1. Male, Hawora Arara community

04 March 2019

Stock

Cattle adult male 0; adult female 1; young 0 (0:1:0)

Sheep 2:2:1 – males either bred or purchased, aiming to sell as rams to the village's community-based breeding cooperative or will sell after fattening

Donkey 1 (sex not identified in any interviews)

The cow is the most valuable asset for the family. It provides daily nutrition, breeding for oxen for ploughing or sale for significant cash. Milk is used by the household daily, but sometimes butter or cheese can be sold for cash as well. Sheep are also important because they provide a good cash source when needed.

Feed shortage is the major constraint to keeping animals and income. To fatten sheep, they will buy a commercial mix from the market and give with some Enset leaves.

2. Male, Hawora Arara community

04 March 2019

Stock

Cattle 0:4:4 – one adult female with growth on eye (Figure 8)

Sheep 0:1:0 – 4 sold recently. Has a fattening system when they buy young animals

Donkey 1

This was not a traditional farm or farmer. The man we interviewed is a farm manager for a larger landowner (female), who is a relative. When it comes to decision-making, he makes recommendations for treatment/sales/purchases etc. to the owner who then takes these actions. As the farm manager, he did most of the work on the farm, but was assisted by a woman. Because of his role, he believed that men and women can do all livestock related jobs on the farm equally (Figure 9).

This farm was resource rich, so feed restrictions weren't significant. They had a very large plantation of Enset and dedicated a plot of land to desho grass. Collecting feed is the most time-consuming part of his day, taking between 4–6 hours. Despite having the largest plot of desho grass we observed, the animals were not allowed to free graze. This farm was also well resourced for water, with a water harvesting system and water tank connected to the roof of the large shed. When assessing feed, he does so by evaluating the available biomass and buying concentrates if needed.

For the cow with the eye issue, they consulted with a government service provider who said that they will treat further after the cow has calved. The farmer disagreed with the statement, 'I need to beat my animals to get them to do what I want', responding that he did need to push/tap them to move where he wanted them to go. This was sometimes difficult because animals prefer being outside and sometimes resist being moved elsewhere/inside. At times, he visually monitors the growth and weights of the animals.

According to the manager, hunger, thirst and anger all make the animals sad. The manager described animals as being happy when the conditions were good. He also mentioned that mating was a positive experience that made the animals happy. It was the manager's belief that being in heat is a sign of a healthy and well-managed animal. When animals are well taken care of, they are productive.

Figure 8: Eye lesion on a cow



Figure 9: Labour sharing on the farm



3. Male, Hawora Arara community

04 March 2019

Stock

Cattle 2:2:0

Sheep 1:3:0 – male used for breeding and fattening

Donkey 1

All animals were out grazing at the time of our visit. Along with the common feed types listed in Table 1, this farmer also grew maize and barley.

Livestock husbandry takes most of his time each day. Specifically, this involves feed collection and preparation, which takes approximately 3–4 hours and his wife helps with this role. He is the one who milks the animals.

Feed, health and water were the main constraints he faces. In the dry season, water is particularly scarce. It takes approximately 30 minutes to travel to the local water source. The dry season, occurring at the time of the interview (December–March), is when there are feed and water shortages. He stated that farmers in the area do not have a year-round feeding system and sometimes he needs to buy Enset to feed the animals at ETB250/stand. The family uses natural plants to alleviate ‘wind’ (bloat, causing gas), but will use government veterinarians when needed. He indicated that he is satisfied with and trusting of the services he receives from the government veterinarians. When asked to elaborate about self-directed treatment of animals, he said that he would give tablets to them when needed but does not inject animals.

Concerning cattle and sheep management, seasonal diseases affect both. The priority for care and feed in times of shortage is directed to cattle because of their importance to the household. He also stated that it is easier to care for sheep. Children in the family help with feeding and feed collection.

When asked what makes his animals happy or sad, he agreed that animals do experience these feelings. Good feed makes animals happy; hunger and illness make them sad and hitting them makes them angry.

By the end of our interview, a large number of local children had joined in (Figure 10). When we asked the children about how animals feel, they agreed that animals can experience emotions and that their treatment affects their feelings. The children expressed that being outside, having the chance to play and being well fed made animals happy. Animals were sad when sick and hungry, and hitting animals made them angry and sad.

Figure 10: Discussion about animal welfare with students



4. Male, Hawora Arara community

05 March 2019

Stock

Cattle 1:1:0 – cow not milking currently, but is pregnant with ~2 months remaining

Sheep 0:1:2

Donkey 1

The farmer feeds Enset leaves, stems and roots to his animals.

Dairy cows are the most important animals but sheep are important too. The farmer stated that he would like breeding support for sheep. He described using government veterinary services twice a year for vaccinations. He didn't recall any times when he has needed a veterinarian to treat a sick animal.

The dry season is bad for him and his animals. Feed and water shortages are a challenge during this time. October is the best time for feed and so is the best time for animals. Feed preparation and bedding cleaning are the two big daily tasks for the family.

5. Female (teenage daughter of farmer), Hawora Arara community

05 March 2019

Stock

Cattle 2:1:1 – young animal is female, males were elsewhere when we visited

Donkey 1

All of the family prepare feed together and they give their animals Enset three times daily. The total time to prepare feed is about one hour. Animals are kept outside for a large part of the day but brought inside overnight and for morning feedings. Their land was fenced, so the cow and calf were able to move freely in the yard. On land without fencing, animals are tethered when let out. They use their donkey to collect water; it takes about 30 minutes to walk to their water source.

The teenager we spoke with has some experience caring for animals, but she is still in school so primarily helps with the housework.

6. Male (husband) and female (wife, present for part of the discussion), Hawora Arara community

05 March 2019

Stock

Cattle 0:2:2 – one cow milking, the other is pregnant

Sheep 0:1:0

Donkey 1

They feed Enset regularly and occasionally purchase by-products (frushka) to give to their animals, but not often. Feed and water are the biggest issues. They cannot grow grasses because they have limited land.

They recently purchased potatoes for planting during the rainy season. Children help with planting and fertilizer spreading. Concerning daily tasks, the husband and wife prepare feed together and the older children collect water. The biggest tasks are cleaning and feed preparation, which can take six hours daily.

The farmer stated that he uses health services when his animals are sick, recalling that the last time he required veterinary services was for a donkey that was coughing and off its feed.

The farmer's wife said that animals are happiest in the good season of October when there is plenty of feed and sad during the dry season (time of interview).

7. Male, Hawora Arara community

05 March 2019

Stock

Cattle 0:2:0 – neither animals are milking now, but both are pregnant; milk from these animals is largely used for household consumption

Donkey 1

At the time of our visit, the farmer's children had taken the animals off for grazing. His wife was sick in bed and his daughters were outside in the front of the house washing and sweeping.

The farmer stated that the most important aspect of keeping animals is having 'a good place' with adequate feed and shelter, which makes the animals happy and fat. The dry season is the most difficult time to provide animal care.

During good seasons, Enset is not used as feed because there is a wide option of grasses that for both cut and carry and grazing. Feeding takes less time during the good seasons. The farmer indicated that the dry season makes animals sad and that animals are also sad when they age and cannot produce as much as before. The farmer 'can tell when my animal is happy because it is producing well. If an animal produces enough milk and is in good condition, I know my animal is good.'

8. Female, Hawora Arara community

05 March 2019

Stock

Cattle 0:2:1 – no milk, but cows were pregnant

Donkey 1

The farmer cares for her animals by providing them with feed and water. She and her family have a reasonable sized plantation of Enset with a little bit of desho grass and a sizeable pile of wheat straw stored in the yard. said the farmer stated that they don't have a problem providing feed for their animals because they have local breeds, not improved breeds: 'We have enough Enset, we have enough wheat. It is not a problem.'

The farmer indicated that it is important to give animals good feed and concentrate, which promotes good body condition and makes the animals happy. 'I can tell when my animal is happy because its stomach is full [sic] and it has good body condition. They are also happy when they are outside roaming.'

A recent concern was that the young animal would become sick because it ate some household items. The farmer and her family previously had a number of sheep but had a bad experience: "In the past, we had a lot of sheep. There was [sic] diseases and bad conditions. Six animals died. We have not tried again, and we do not want to buy sheep. This was about four years ago.'

Most of the work responsibilities in her household fell to her daughter because she was sick, as was her husband., her other children had moved away and did not want to farm. Previously, all family members supported each other.

In spite of the labour division in her own household, the farmer indicated that ideally, women's jobs included cleaning, milking and taking care of the house, while men's jobs are looking after the crops and collecting fodder.

Meeting with LFRDO

04 March 2019

ILRI/The University of Melbourne (UOM): Rebecca Doyle, Mamusha Lemma and Annet Mulema

LFRDO Personnel:

- Gebriel Binchamo (male), poultry expert and extension provider
- Genet Tilahun (female), vice head of the Livestock and Fisheries Resources Development Office
- Tafese Desalegn (male), group's finance expert, providing information for the question, 'What does animal welfare mean to you?'
- Belay Elias (male), veterinarian assisting us with the community conversations and interviews

Summary

Over the course of two hours, we held a discussion with four members of the LFRDO. The aim was to:

1. Understand constraints and opportunities in the region, and
2. Obtain their perspective on animal welfare and gain their insight regarding farmers' perspectives

The main concern from the group centred around poor capacity in local service providers (people they work with). This was viewed as the root cause for a variety of problems, ranging from farmers providing inadequate care for their animals, misuse of antibiotics, poor welfare outcomes and productivity limitations.

Detailed notes regarding our conversation are provided below.

What are the constraints for farmers in your region?

- Village-level poultry is a challenge. Currently, dual-purpose birds are delivered from the hatchery at one-day of age, along with feed, to a local distributor who then grows birds until 45 days of age. Health services are provided by the veterinary officers. Poultry is then bought by villagers. There is little knowledge and resources at the village level to care for these improved breeds (improved genetics, but not improved husbandry). This creates risk for families. Specifically, for poultry production, in addition to lack of knowledge and farmers' skill regarding improved poultry husbandry, there is also lack of improved feed and health service delivery.
- Crop production is traditionally seen as more important than livestock. Livestock also requires more inputs and initial cash to establish.
- Livestock is also an important livelihood source in the area, but health service provision is challenging with no/limited inputs.
- Feed supply options are limited. Shortage of grazing land and feed are the biggest constraints for small ruminants. The only available improved grass is desho. When asked about water provision, this was not regarded as an issue.

- Women are constrained to buy livestock (small ruminants) for themselves. Labour division is usually men working with cattle and women working with small ruminants and poultry. Women are not in a position for decision-making power over livestock. For example, a household may be male led, and so he will make decisions about buying poultry, but it is the woman's responsibility to care for the poultry. This is not because women lack opportunities to buy poultry but because of the cultural norms that favour men. Men control livestock and household expenditures. Men are traditionally the household heads; men represent the household even in activities that involve the knowledge and roles of women e.g. chicken production. Therefore, service providers distribute poultry and give advisory services to men rather than to women. This represents a gender blindness of service providers driven by deeply embedded traditions. However, some women can buy and sell poultry in the local market.
- Knowledge, attitudes and practices (KAP) is perceived to be a limitation with farmers 'not sensitive to animal's needs'. Hoof overgrowth was the associated example given.
- There is a disconnect between service providers and farmers that creates issues with animal productivity, welfare and antimicrobial stewardship. Service providers aren't informed of issues by farmers. Rather, farmers contact drug suppliers directly to treat their own animals. This fosters the perception among service providers that farmers provide inadequate care to their animals. The discussion also revealed a perception among service providers that farmers devalue their services, including a belief among farmers that service providers often misdiagnose animals. However, further discussion led to staff acknowledgment that farmers who treat their own animals are concerned with the welfare of their animals. This break down of trust between service providers and farmers extends to crop support to a degree.
- Farmers have a stepwise approach to treating sick livestock: 1) traditional medicines, 2) buy medicines and treat themselves and 3) call service providers who treat without asking about history or diagnosing. If/when this doesn't have an immediate effect, farmers will call multiple service providers, potentially seeing three in a day. When it comes to self-directed treatment, men provide injections, usually reserved for cattle. Women give tablets, usually reserved for small ruminants. When it comes to investing in animals, the priorities in order of importance are: 1) cattle/oxen, 2) small ruminants and 3) poultry.
- It was recognized that self-directed treatment, low trust in veterinarians and a low capacity of veterinarians are all contributing to AMR issues.
- The lack of capacity of the service providers contributes to bad practices with antibiotics and animal welfare. Farmers only see service providers deliver drugs, so they go straight to the source (local drug suppliers). Farmers also see service providers performing procedures with no anaesthetic/pain relief, leading to a perception that animal pain is not important or non-existent.
- Antimicrobial stewardship is very poor among farmers and service providers. Farmers have no concept of a withhold period and will treat with whatever they have/are provided with.
- There was a perception that traditionally (historically), farmers have kept livestock but not recognized the animals' contribution to their livelihoods. Crops are viewed as having priority over livestock. Crops are the immediate food supply for the family, while livestock (particularly small ruminants) are the cash. This is reiterated with agriculture extension support that has historically focused on crops. There is now a shift to consider livestock as a clear asset.
- It is possible that severity dictates action. When symptoms are not life threatening, farmers will self-diagnose and treat the animals using local knowledge. As conditions worsen, farmers are prompted to consult veterinary service providers.
- Access to knowledge is a major limitation, as is knowledge sharing. Service providers need access to good information in a user-friendly way to facilitate knowledge sharing.
- At the community level, there is a plan for one community animal leader for health and one for productivity. This

can be a man or a woman, although it is expected that mostly men will take on these roles. Of the 12 community animal health agents, four are female. When asked if there are difficulties sharing knowledge with the opposite gender, they said no. Upon further discussion, however, this became a clear issue. As an example, the male poultry extension officer will speak to the household head—a man—about poultry production issues. However, poultry care is predominantly performed by women. Part of the issue stemmed from the belief that it is not appropriate to speak with a woman when the male head of the household is at home. Gender awareness training could change this perception.

- The gender capacity of service providers is a major issue in serving women farmers. Service providers treat the household as a single unit while failing to acknowledge household dynamics.

What does animal welfare mean to you?

Responses include:

1. Refers to production, income and consumption.
2. This is the rights of the animal to live and to be treated like they have rights, be treated like human beings.
3. Animal welfare is good because farmers benefit when meeting these needs as it leads to yield/productivity improvements.
4. Animal welfare means pain, comfort and feelings. This is a gap in farmer practices. They beat animals, or overload carts because they don't think that the animal feels pain.
5. There was a consensus that farmers know they own the animals and depend on them for their livelihoods, but they do not treat them well. They have a disconnect between their reliance and care (selfish or trade-off approach—'animal is surviving so that is ok').

How would you describe animal welfare?

- Michot (comfort)
- Dehenanat (well being)
- Kibikabe (giving care) - this was favoured term as it is familiar and has meaning to communities

Do you think animal welfare is important?

- It is critically needed and a major knowledge and practice gap.
- It is important from the production perspective because it helps teach farmers how to give good care and then what is good for the animals is good for the farmers.
- Animal welfare is in line with their work. They focus on breeding, health, feed, shelter, marketing and zoonotic disease. This good care means good animal welfare.

What opportunities do you see, or what successes do you see?

- Good knowledge and demand from farmers on breeding: a government artificial insemination program for dairy that is/has been extended to small ruminants has had good uptake.

- Forage growing is now commonplace in this region. Also, the result of a targeted intervention.
- Almost all villages use improved poultry breeds now. They buy birds for ETB65 and sell for >ETB300, so they can see the value of investment.
- The conclusion from the group is that farmers will willingly adapt clear opportunities when they are well supported by knowledgeable service providers.

Recommended focus points for the animal welfare community conversation module

Based on the discussion with local partners and farmer interviews, we suggest potential KAP developments for welfare community conversations (Table 2).

Table 2: Potential KAP developments for welfare community conversations

Identified issue	Knowledge	Attitudes	Practices
All interviewees spoke about providing good nutrition and housing when it came to giving care for their animals. Only some of them identified handling/hitting as a part of this. Hitting and aggressive animal handling were common (observed by the team during current and previous visits). Interviewees also tended to focus on cattle when describing care giving. Including all animals in discussions of animal care, welfare and lower-stress animal handling techniques can be positive for both farming families and animals.	Understanding the concept of animal welfare, and that it includes handling and fear for all animals in their care, not just the highest-value animals.	All animals can experience pain and fear.	Use lower-stress handling practices.
Free access to water was not common practice. While some of the feed provided to animals has a high-water content (Enset), providing more of this may limit feed intake. In Doyogena, water access was limited and water collection was one of the key activities for family members daily. Increasing water availability for some animals may lead to better animal outcomes. This would be targeted to cows, which are the most important animal both in terms of the household's assets and nutrition.	Animals can experience thirst and water provision increases milk production (focus on large ruminants).	Animals, especially lactating cows, get thirsty and increasing water access is a valuable practice.	Increase the amount of water access animals have, particularly in dry season.
Farmers described feed as their greatest production limitation, that their animals were the happiest in the high feed periods, and that they had often had to purchase supplementary feed for their animals. However, monitoring animal condition did not often surface in discussions. Encouraging collective action to improve constrained resources is challenging. Discussing monitoring of animal condition (for cattle, small ruminants and donkeys) and strategic feeding may be a good approach for addressing this issue and giving families a few tools to feel more in control of resource constraints. In terms of animal welfare, monitoring and effective feeding may be a useful strategy to encourage farmers to be proactive with improved nutrition that is linked to animal health and survival. Furthermore, condition scoring is how middlemen value animals for sale in Ethiopia (discussion with traders, April 2018), so making farmers aware of this could empower them during animal sales.	Body condition influences dam reproductive efficiency, neonatal mortality and price at sale, and increases the likelihood that farmers are using supplementary resources effectively.	Monitoring animal condition is a useful tool.	Perform body-condition scoring of animals.
Castration and injuries were not discussed during the interviews, but according to regional veterinarians (not recorded in this report), castration is common practice (using rudimentary practices) while wound care is not.	Castrating later increases pain, risk of disease(infection) and long recovery.	All animals experience pain. Treating injuries is important in all animals	Clean wounds and revise castration practices.