Discussion | In this first breakout, we will discuss four key challenges preventing effective market participation; then, we will discuss country-specific nuances

Access to pasture, feed and water

Pastoralists are more **dependent on natural pasture** than other SSPs; due to increasing expropriation and droughts, **existing rangelands are insufficient** to meet livestock demand (e.g., Ethiopia - feed shortages are expected starting in 2028 even under average rainfall conditions)

Feed supplementation is necessary, but its use is rare given pastoralists' focus on biomass over quality; herd size over productivity

Access to animal health products and services

Pastoralists access animal health services **3x less often than crop livestock farmers** primarily due to higher costs

Limited supply, inadequate cold chain, and **challenging last mile delivery** limit vaccinations to pastoralists

Pastoralists occupy **remote zones where there is limited disease surveillance** or decentralized management of animal health services

Limited market access and integration

90%+ of pastoralist sales occur depressed, within primary markets, or they face 20%+ animal losses during transport

Due to travel and distance required, livestock prices tend to **depreciate / is highly unpredictable**, with **high probability of animal death**

Transport costs are worse for pastoralists due to remoteness (shortest avg. time to market is 6.5 hours in Burkina Faso)

Limited opportunities for value capture, addition

Pastoralists **lack access to necessary production inputs** to seriously pursue animal fattening

Pastoralists often forced to sell for non-market reasons and to **manage long-term herd resilience**, often sell less-desirable (i.e., thinner) animals

Weak market linkages play a role in limiting fattening among pastoralists since they are more removed from markets and often **unaware of buyer preferences**

Source: MAPs Analysis 2021-2022

Access to pasture | Access to dependable pasture and feed is the most important constraint to livestock productivity in pastoral production systems

Decreasing productivity of rangelands resulting in deceased availability of feed …

Existing **rangelands won't be able to fulfill feed requirements due to increasing frequency and intensity of droughts**, and increasing livestock populations

- Shortage of feed expected in Ethiopia starting in 2028 even under average rainfall conditions

The growing demand for agricultural products due to increasing population has resulted in the **expropriation of rangelands for crop cultivation** and the privatization of land

- ~100,000 Ha in Ethiopia was expropriated for crop cultivation
- 1/3rd of grazing reserves in Nigeria used for crop cultivation

Resulting decrease in available rangeland **increases pressure on remaining rangeland resulting in overgrazing and land degradation**

- Overgrazing responsible for ~58% of land degradation in Africa

… and is exacerbated by the use of low quality, untreated crop residue …

Crop residue is also an **important source of feed during the dry season in West Africa given the high prevalence of crop cultivation**

- Crop residue is the source of 50%+ of feed for livestock in Nigeria during dry season
- ~8B kg of crop residue produced across Burkina Faso annually

Crop residue is also **becoming an important source of feed in East Africa due to an increase in crop cultivation and land degradation** (e.g., the contribution of crop residue to animal feed has increased by up to 33% in Borana from the 1970s)

However, **quality of crop residue is too low to meet livestock requirements** for high productivity

- Top 3 frequently used crop residues in Ethiopia (maize, teff, wheat) all have low crude protein and digestibility while in West Africa (sorghum, millet, cowpea) only cowpea seeds are high in protein and digestibility

… and limited access to planted forage, fodder and feed supplements

Pastoralists in our focus region are **less likely to use planted forage, irrigated fodder or supplements**

- Planted forage consists of 1% of total cultivated land in Ethiopia
- Irrigated fodder production is still at the early stages but becoming more common (esp. in Africa)

This is driven by **limited awareness** as pastoralists in our region are often **focused on gut fill rather than nutritive value** and **herd size over productivity**;

- Burkinabe pastoralists force their livestock to ingest woody plants which are less palatable while Ethiopia pastoralists feed their livestock grass roots to achieve gut fill

At the same time, **demand for supplementary feed outpaces existing supply** (by 3x+ in Ethiopia) due to limited in-county production (e.g., due to seed shortage for fodder production)

Source: LSA Ethiopia ; Cattle-rangeland management practices, perceptions of pastoralists toward rangeland degradation in the Borana zone of Southern Ethiopia ;Pastoralism and Security in West Africa and Sahel: Transnational dimensions of conflict between farmers and herders in Western Sahel and Lake Chad Basin ; Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience; Improving adoption of technologies and interventions for increasing supply of quality livestock feed in low- and middle-income countries; Inter-connection between land use/land cover change and herders' farmers' livestock feed resource management strategies: a case study from three Ethiopian eco-environments ; Inter-connection between land use/land cover change and herders' farmers' livestock feed resource management strategies: a case study from three Ethiopian eco-environments ; Production and utilization of crop residues in Horro and Guduru districts, Western Ethiopia ; Crop Residues and agro-industrial by-products in West Africa ; Improving adoption of technologies and interventions for increasing supply of quality livestock feed in low- and middle-income countries; Livestock Marketing Report Commissioned by MAPs, July 2022; Survey of value chain actors conducted by MAPs between June-Sept 2022; expert interviews; BCG analysis

Access to healthcare | High costs, limited availability and accessibility to health services is resulting in high livestock mortality and immense productivity loss

Availability

- **Shortage of vet supplies** severe in remote pastoral areas, and leads to higher cost of services
- Animal health services largely **provided by public sector**; heavy reliance on the government means livestock producers rarely engage in routine vaccination for their animals
- Regional veterinary services fail to reach most livestock keepers due to **static nature of services** at clinics
- Most clinics can only purchase funds to satisfy demand for farmers within a 10km radius for 4-6 months

Accessibility

- **Concentration of vet personnel** and infrastructure found in densely populated areas; **high prevalence for adulterated drugs in remote areas** and pastoralists conducting their own treatments
- Pastoral vet services delivered according to **packages tested in sedentary production systems**
- Mobility, remoteness, poor infrastructure, budget limitations, and **weak institutional arrangements** limit access
- Lack of private sector participation **limits service and delivery efficiency**

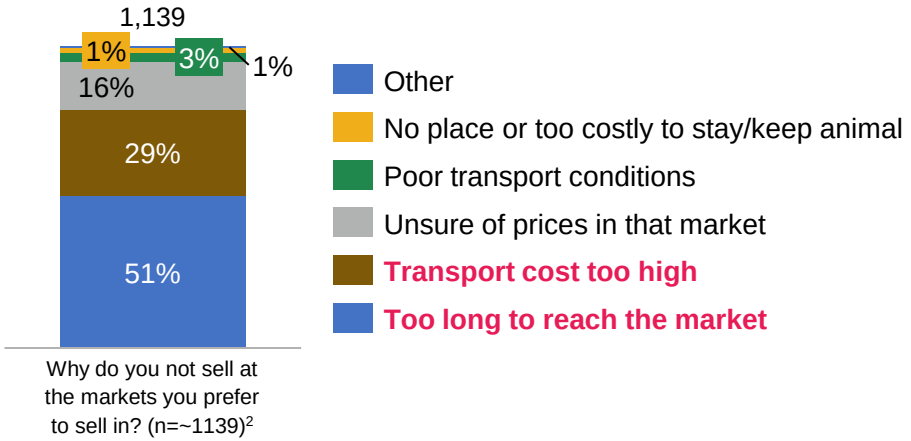
Cost

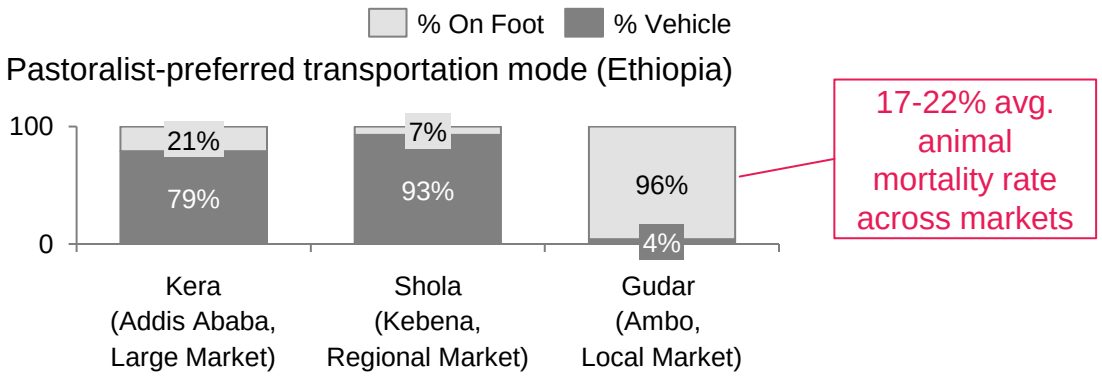
- Pastoralists access animal services ~3x less than crop-livestock farmer. However, this is likely due to costs; **pastoralists paid 2x more per visit compared to crop-livestock farmers**
- Prices of **common drugs have risen 3x in Ethiopia** due to inflation (~30%) and devaluation of Ethiopian Birr (~20%)
- Demand depends on accessibility, quality, affordability, and timeliness of the services – pastoralists want access; **nearly 80% are dissatisfied with current veterinary system**

 Source: The HEARD project; 1. USAID; 2. Ibid 3. Livestock Marketing Report Commissioned by MAPs, July 2022; Survey of value chain actors conducted by MAPs between June-Sept 2022; expert interviews; BCG analysis

Market Access | Significant challenge for pastoralists to access markets to remote areas; poor conditions lead to value depreciation upon reaching markets

Challenging for pastoralists to reach the markets they prefer to access esp. due to heavy transportation costs





Once they reach markets, storage and housing conditions threaten to further depreciate livestock value

Inadequate housing and storage practices: Markets tend to lack weather-protective pens, overpack animals into small fenced pens, and utilize aggressive techniques to corral animals – these market settings and practices negatively impact livestock product quality and contribute to avoidable attrition

Worker health and training: Most workers are not trained and do not undergo regular health checkups, which increases risk of injury and/or illness as well as contamination[1]

Animal handling: Many markets and abattoirs have multi-directional lairage and slaughter animals in front of each other, which increases stress, creates delays, and presents risk of injury to the animal[1,2]

Information management: Inspection records and cataloguing of animal species were not widely observed in public abattoirs; these practices are critical to understand health risks and reduce inspection failures[1]

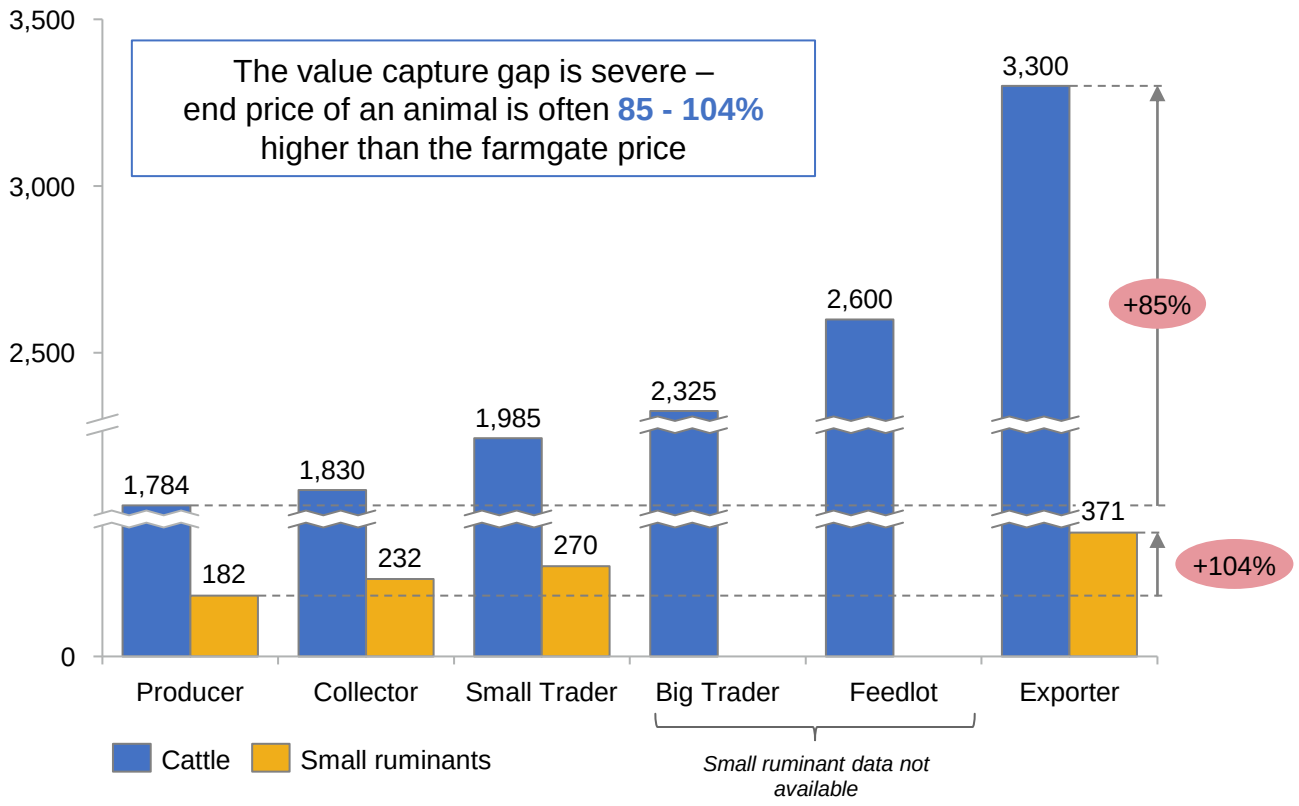
Animal processing and hygiene: many markets and abattoirs utilize floor bleeding and processing, which increases risk of contamination. Workers rarely wore protective clothing, further placing themselves and the product at risk.[1,2]

Meat transport: Many abattoir workers reported irregular cleaning and lack of refrigeration in dispatch trucks[1]

Sources: 1. AJAR 2015; 2. ASFT 2019

Value addition | Pastoralists capture far less value relative to downstream actors (traders, exporters) due to a confluence of four price-determining attributes

Observed cattle & small ruminant prices by participant (ETB)[1]



Price-determining factors tend to unfavorably influence prices received by pastoralists[2]

Higher impact on prices

Buyer-seller attributes: Pastoralists lack sufficient market information and lack personal connection with the buyers, brokers take advantage of the information gap to set lower selling prices for pastoralists and high buying prices for the buyers and demanding a cut from both for facilitating the transaction

Transaction attributes: Traveling collectors and traders tend to visit many markets and transact using cash, meaning they can source supply from many different pastoralists, depressing prices received for pastoralists

Higher impact on prices

Animal condition: Physical condition of animals is a huge determining factor on value, but pastoralists struggle with transporting/trekking livestock to markets from remote grazing areas and keeping animals in good condition (~20% mortality rates) - leading to price depreciation

Supply-demand trends: Dry season tends to coincide with an oversupply of livestock entering the market due to pastoralists' need for foodstuffs, driving price decreases in markets right when greater livestock value is especially critical for pastoralists' wellbeing. At the same time, most pastoralists are aware of such seasonal trends and several commercially-minded ones time livestock sales (especially small ruminants) to take advantage of such trends

Source: 1. EIAR (2009); based on 2007 survey observing 4,178 transactions in Ethiopia; 2. Market Structure and Function for Live Animals in Ethiopia