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POLICY BRIEF

BUSINESS MODEL INNOVATION FOR BEHAVIOUR CHANGE WITHIN THE GOAT VALUE CHAIN IN ETHIOPIA

Implications for policy and investment

Maureen Kamusiime, Grace Njoroge and Vaidehi Krishnan

Key messages

- **Innovations in business models are difficult for external organisations such as non-governmental organisations (NGOs) to introduce.** Despite best intentions, such innovations are overly focused on reaching marginalised or vulnerable groups and not necessarily on the direct and indirect costs experienced by a business that may lead to increased revenues. Traders especially easily keep the aspects of the business model innovation that work and drop any aspect, such as new livestock pricing models, that do not yield the desired returns. In this study, most traders continued business relationships with rural aggregators using mobile phones because it reduced the traders' costs when sourcing livestock. National traders do not offer weight-based pricing of livestock because it diminishes profit margin, despite preference for livestock pricing by regional traders.

- **Digital market information is the single most cost-effective driver of change.** Phone and WhatsApp communication helps align supply with buyer demand, builds trust and reduces losses. But weak telecom networks limit the transformative potential. Expansion of rural telecom access, as well as investment in digital applications or low-cost SMS-based tools, make markets more accessible to pastoralists and increase trade from rural areas.

- **Trust-based credit supports business continuity and strengthens relationships but is fragile.** Defaults and lack of formal mechanisms expose actors to high risks. A fixed amount of working capital prevents traders from off-taking more livestock from rural areas, especially when there is abundant supply. Donor-backed escrow systems and guarantee funds create an alternative source of low-cost finance, especially during times of crisis, such as drought, when it is necessary to remove more livestock and increase incomes to pastoralists.

- **Transport and market infrastructure are critical enablers of scale and inclusion.** Shared trucking and feeder-road investments reduce costs, expand women's participation and improve access to high-value markets. Co-financed local market centres and shared vehicle schemes can be good-value investments for governments and donors.

Women traders inspecting goats in Jigjiiga, Ethiopia, 2025 © Maureen Kamusiime/Mercy Corps

Introduction

Ethiopia's livestock sector plays a central role in rural livelihoods and contributes substantially to the national economy. It supports an estimated 12%–15% of gross domestic product (GDP) and provides foreign exchange earnings through live animal and meat exports (FAO and World Bank, 2020). Yet, the sector is constrained by fragmented markets, limited access to finance and high reliance on informal cross-border trade. Unofficial trade flows are valued between $250 million and $300 million annually – almost ten times official figures – suggesting the large scale of untapped revenue for government and lost opportunities for pastoralists (Aklilu and Catley, 2010).

Over the last decade, multiple donor- and NGO-led business models – including cooperatives, broker networks and smart subsidies – have been piloted to commercialise livestock. While some generated short-term gains, few resulted in sustained behaviour change or market integration (Catley et al., 2013; Suttie, 2013). With shrinking aid budgets and growing demand for value-for-money investments, the policy imperative is clear: to scale models that are commercially viable, resilient to shocks and capable of delivering lasting benefits to pastoral communities. Market facilitation approaches, which embed incentives within existing trading systems, show strong potential. Evidence suggests that each $1 invested in livestock market integration can generate $3–$5 in additional livestock GDP, thanks to multiplier effects on rural employment, trade and foreign exchange (FAO and World Bank, 2020).

Despite the widespread importance of livestock production and marketing within dryland economies, there remains a pervasive disconnect between sellers and buyers. This is perpetuated by opaque information networks, leading to asymmetrical power dynamics. With few or no mechanisms for buyers to mitigate market risk, this becomes a disincentive to invest in business relationships with suppliers (i.e. producers or village-level traders). Lack of trust between sellers and buyers, as well as unwillingness to invest in relationships, leads to uninformed decision-making and a reduction in volume and consistency of livestock delivered to market.

This brief examines a business model innovation introduced by the donor-funded Resilience in Pastoral Areas (RiPA) project.[1] Introduced in 2021, this innovation in trading relationships embeds commercial incentives within an existing network of market actors. The goal of the innovation was to catalyse economic and partnership investments across the goat value chain and spark more durable shifts in behaviour. If successful, these shifts would result in greater value being returned to the producer or village-level traders, as well as a consistent supply of quality animals for regional and national traders.

Methodology

Researchers used qualitative tools and purposive sampling to conduct focus group discussions and individual interviews with 81 respondents in the Somali and Oromia regions of Ethiopia. Respondents included regional goat traders, village-level goat aggregators and livestock producers. All were participants in the NGO-led development programme.

1 Mercy Corps' *Enhancing incomes and resilience of pastoralists in Ethiopia through vertically integrated livestock supply chains* publication provides greater detail of the development intervention and its outcomes (https://dldocs.mercycorps.org/EnhancingIncomesResiliencePastoralistsEthiopiaRIPA.pdf).

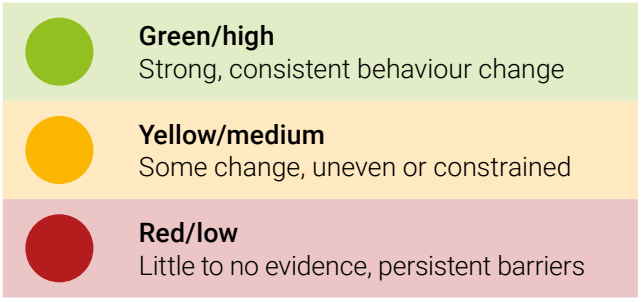
Analysis and findings

The broader business model innovation tested by traders along the goat value chain included micro-innovations that overcome communication and liquidity constraints, which are chronic challenges faced by producers and traders. Respondents were asked to list the changes (i.e. innovations) they experienced in their engagement with their immediate buyers and sellers as well as the changes that they valued and thus adopted. Summaries of their responses are presented in Tables 1–3.

Four major findings emerged from the study. These findings are presented quantitatively[2] against the return on investment potential of the investments.

The green, yellow, red traffic lights used throughout this brief represent the consistency with which a specific behaviour is observed in the next level of trader along the live animal supply chain (see Figure 1).

FIGURE 1: TRAFFIC LIGHT SYSTEM



Source: Authors.

HOW TO INTERPRET SUMMARY TABLES

The innovations introduced are meant to speak to the motivations or interests of each stakeholder along the value chain – addressing a barrier or opportunity that perpetuates undesirable behaviours. The tables in this brief are presented as a series of behaviour changes.

To interpret the table, read horizontally from left to right; comparing the strength of the behaviour change of the buyer to the level of motivation or response by the supplier. For example, national/international traders (buyers) offer a new service or innovation to their business model (e.g. transparent pricing, credit, or transport services) to stimulate a behaviour change by regional traders (supplier). Similarly, regional traders (buyers) offer a new service to village-level aggregators (suppliers) and village-level aggregators (buyers) offer a new service to livestock producers (suppliers); each level of buyer changing their behaviour by offering a new service in an effort to drive a change in their suppliers' actions or behaviours. In some cases, suppliers are motivated by a new service (e.g. transparent pricing) but buyers do not see value in their own behaviour change and stop offering the service. Thus, the buyer's behaviour change is red or yellow while the suppliers' behaviour change is green.

Regional traders			Mini-collectors		
Receive from national buyers →	Regional buyers act upon information	Provide to mini-collectors →	Mini-collectors act upon information	Provide to producers →	Producers act upon information
Investment	**Adoption**	**Investment**	**Adoption**	**Investment**	**Adoption**

Investment preference: investments (i.e. offering a specific innovation) made by more than 50% of respondents are considered high (beneficial); investments made by 34%–49% of respondents are considered medium or moderately beneficial; and investments made by less than 33% of respondents are considered as low benefit.

Value gained: investments made by buyers are intended as incentives to sellers to stimulate a specific behaviour change (e.g. increased supply, quality of supply or loyalty). The level of adoption was evaluated based on qualitative responses by respondents. Innovations acted upon by sellers are classed as: high (respondents reported a consistent behaviour change); medium (behaviour change was inconsistent across suppliers); or low (with little evidence of behaviour change).

2 All study data is qualitative and must be interpreted with caution.

TABLE 1: DEGREE OF INVESTMENT AND ADOPTION OF NEW APPROACHES AND INTRODUCED TECHNOLOGIES BY BUSINESSES ALONG THE GOAT SUPPLY CHAIN

Investment type	Regional traders			Mini-collectors		
	Receive from national buyers	Regional buyers act upon information	Provide to mini-collectors	Mini-collectors act upon information	Provide to producers	Producers act upon information
	Investment	**Adoption**	**Investment**	**Adoption**	**Investment**	**Adoption**
Market and buyer preference information	88%	High	38%	High	43%	Medium
Animal health and animal quality support	13%	Medium	67%	Medium	46%	Medium
Weight-based purchasing training and support	25%	High	29%	Medium	44%	Low

Source: Authors.

Digital communication enabled sharing of market, buyer and animal-quality preferences

The introduced business model included use of basic technology already accessible to all participants. Use of a cell phone (feature and smart phones) to share information and organise logistics was the most reported innovation in business activities.

Respondents shared mixed feedback on the benefit they gained from market information. In some cases, information was shared but not acted upon. More commonly, information was not shared consistently by buyers but was highly valued by sellers. This could be due to the relative value buyers gain from withholding information when negotiating prices with sellers.

The programme also introduced the use of weighing scales for transparent livestock pricing. As with sharing price information, buyers did not continue to offer weight-based pricing despite it being appreciated by sellers. Table 1 shows the percentage of buyers offering a specific service (innovation) as related to the sellers degree of interest in receiving the service.

Credit provision between buyers and sellers is trust-based, filling gaps in formal finance but at high risk

Limited working capital is a known constraint in livestock trade (Banerjee et al., 2021). Traders at all levels along the supply chain rarely access formal loans to meet their working-capital needs. Loans from financial institutions are seen as costly to secure and manage. Instead, soft loans from family, friends or business associates are the norm. The development programme sought to increase the extension of credit by buyers to sellers and vice versa. Extending credit along a supply chain does occur but usually where trust is high, built after years of partnership or through family or clan networks.

As seen in Table 2, investment in and adoption of credit services was limited. The greatest increase is in regional traders offering credit services to village-level aggregators (mini-collectors). Despite 58% of regional traders offering credit services, uptake by mini-collectors was moderate.

TABLE 2: CREDIT-RELATED INVESTMENTS AND BEHAVIOUR CHANGE MATRIX

Investment type	Regional traders			Mini-collectors		
	Receive from national buyers	Regional buyers act upon information	Provide to mini-collectors	Mini-collectors act upon information	Provide to producers	Producers act upon information
	Investment	**Adoption**	**Investment**	**Adoption**	**Investment**	**Adoption**
Payment and credit support	33%	Medium	58%	Medium	26%	Low

Source: Authors.

Buyer-provided transport was present but rare

Costs associated with moving animals from rural production areas to urban market sheds weigh heavily on both buyers and sellers. Costs incurred include the actual cost of hiring trucks or herders to walk animals, formal tariffs paid through movement permits, informal tariffs paid at checkpoints, and weight loss and death of animals due to stress and inadequate feed and water. Who pays for transport varies with cultural norms across country and sub-national contexts, although the burden usually falls on the seller as traders typically pay when a large number of animals is guaranteed. Ideally, costs are absorbed into the final sales prices. When sellers do not know who the buyer will be, sellers will incur additional expenses by keeping animals close to markets waiting for a buyer.

The programme worked with buyers to introduce transport services as an incentive to sellers to aggregate large numbers of animals. Despite 52% of regional traders extending this service to mini-collectors, the practice was moderately adopted (see Table 3), raising questions about whether lack of transport or high transportation costs is an important incentive to the reliable supply of animals.

National buyers employing regional buying agents was rare

Successful livestock traders typically operate through an extensive network of trusted aggregators, which are independent businesses that often operate as an (unofficial) agent of the buyer. These business relationships are built on trust. Aggregators must manage their own working capital and can become a weak point in the supply chain if they do not have the cash resources needed to fill large orders. The programme sought to formalise the relationship between the buyer and the aggregator through employment contracts for those working as buying agents. This study found that only one regional trader in Oromia reported that his buyer had employed a veterinary doctor to act as the intermediary. This was a strategic choice since the doctor provided vaccinations, checked animal health and animal quality, and acted as the financial intermediary between the national buyer and regional trader, before animals were transported, at the buyer's cost, to the exporters or abattoirs. This reduced the risk the buyer experienced when buying animals for export markets.

TABLE 3: TRANSPORT-RELATED INVESTMENTS AND BEHAVIOUR CHANGE MATRIX

Investment type	Regional traders			Mini-collectors		
	Receive from national buyers	Regional buyers act upon information	Provide to mini-collectors	Mini-collectors act upon information	Provide to producers	Producers act upon information
	Investment	**Adoption**	**Investment**	**Adoption**	**Investment**	**Adoption**
Transport	50%	Medium	52%	Medium	14%	Medium

Source: Authors.

Discussion: introducing business model innovations

Researchers asked respondents to describe actions they took that demonstrated adoption of the process innovation as well as limitations to introduced process. In most cases, innovations benefited one market actor more than another, making sustained investment and adoption unlikely.

Development programmes across states affected by fragility and conflict work to disrupt exploitative or power-consolidating norms through the introduction of technological and process innovations. Introduced innovations often address market inefficiencies such as limited organisation of market actors, information hoarding or limited transportation systems. To be successful, innovations must be valued or provide value to more than one market actor. Development actors must push beyond innovations that address only those incentives that favour one side of a business relationship by, for example, reducing transaction costs and building trust so as to benefit both parties. Innovations, especially process innovations such as new business models, must consider the perverse incentives one or more market actors are likely to have for maintaining operations as they are. For example, despite sellers' adoption of market information or transparent approaches to pricing animals, buyers are less interested in transparency as they benefit from opacity of information. The value gained by one or more actors must be greater than the value gained by all actors in the prevailing system.

Summary: best buys

Based on these different investments, costs and benefits that market actors reported on, we suggest best buys and recommendations for donors and policy-makers (Table 4). We use cost information where market actors explicitly provided this. If not, we do this as a qualitative exercise.

TABLE 4: COST-BENEFIT ANALYSIS OF DIFFERENT INVESTMENTS

Investment type	Costs	Benefits	Value assessment
Market and animal-quality information (phone/WhatsApp)	Very low – phone/data costs	Strongest driver of trust, repeat sales, reduced mismatch; improves quality and supply reliability	Best buy – high impact, negligible cost
Animal quality investments: veterinary services and quality checks pre-sale	Low (where buyer-provided); medium (if own vaccines, checks)	Reduces animal losses, builds trust, ensures repeat sales	Best buy – low cost, high pay-off
Animal fattening	Medium – fodder/feed costs for 2–3 months	Higher sale weights; one trader reported getting an additional $14.90–$22.35* per goat (18kg–21kg); business reputation improvements	Good buy – moderate cost, high returns if scaled
Holding grounds and feed/water storage	Medium–high – construction and ongoing feed costs	Increases offtake during droughts; one trader bought goats at $31.30* then sold at $63.35* after fattening/holding	Good value – resilience pay-off but capital heavy – often requires donor co-financing.
Transport (investments in trucks). Rare, reported only by one trader association	High – purchase and maintenance; high reliance on road infrastructure	Enables business scaling; one trader reported transporting four or five trucks with 145–150 goats per truck, three/four times a month; access to distant markets	Poor value – investments in trucks/transport is critical for scale but prohibitively costly; alternative approaches to transport need to be explored, plus increased investment in roads
			Good value – co-financing feeder roads, benefits at scale for multiple market sectors; investments can be regained through taxation and business licensing

Source: Authors.

*Conversion from ETB 4,200 and ETB 8,500 based on Oanda.com foreign currency rates as of 15 May 2025.

Recommendations for donors and policy-makers

Phone/WhatsApp-enabled communications were possibly the single most cost-effective investment, underpinning trust between buyers and sellers, aligning livestock supply with market demand (e.g. animal size, weight, sex), and increasing women's access to reliable buyers. But low phone ownership and limited digital network in rural areas limited innovation reach.

- Invest in rural digital and telecom infrastructure.
- Expand mobile coverage and promote the use of low-cost tools (apps and SMS-based systems) for actors to exchange information on price and quality.

Trust-based credit between livestock buyers and sellers is important but payment defaults can have a downward spiral and destabilise the entire system. Risk management mechanisms (e.g. savings, social safety nets, insurance) and accessible credit mechanisms through formal financial institutions support liquidity constraints along marketing chains.

- Pilot escrow products for payments to build trust between buyers and suppliers. Alternatively, using veterinary doctors as financial intermediaries can provide the required services to suppliers and assure buyers of animal-health quality.
- De-risk credit through blended finance. Donor-backed lines of credit, guarantee funds or solidarity-based lending can be particularly beneficial for women who are seen as reliable and trustworthy partners in the goat value chain.

Transport infrastructure is critical for scaling up but has high risks and recurring costs.

- Improve transport and local market access. Co-finance feeder roads and small holding/market centres to reduce trekking distances.
- Support shared-vehicle models or subsidised trucking cooperatives, with explicit provisions for women traders.

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About SPARC

Climate change, armed conflict, environmental fragility and weak governance, and the impact these have on natural resource-based livelihoods, are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

SPARC aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the FCDO, donors, non-governmental organisations, local and national governments, and civil society can empower these communities in the context of climate change.

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