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The interface of market access and SPS requirements: Lessons from recent ILRI research in Africa

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Improved market access, in formal or informal markets, can enhance livestock systems' potential as a pathway out of poverty. Such access can foster the growth of new value chains, creating employment opportunities for many livestock sector stakeholders (Rich and Perry 2011a). However, access to export markets for African livestock and livestock product has been limited, nationally and regionally (Rich, Perry, and Kaitibie 2009; Williams et al., 2006). ILRI's work on constraints to export market access addresses low productivity, underdeveloped marketing systems, limited competitiveness, and the prevalence of highly contagious transboundary diseases such as foot-and-mouth disease (FMD) (Perry and Rich 2007; Rich 2009; Rich and Perry 2011b).

ILRI research shows that African countries' export trade in live and processed animals is mainly constrained by costs of production and (scale-dependent) transactions between producer and foreign consumer. The impact of animal disease is felt more in terms of low productivity and high mortality than through costs of SPS compliance. ILRI's in-depth whole-chain studies identified cost items and market actor behaviors that contribute to poor export

performance. Costly and ineffective drug delivery systems in Somalia, high feed costs in Ethiopia, high transport costs in East Africa, and high marketing costs and lack of information in West Africa, were common culprits.

Why control transboundary diseases?

Some authors argue that the benefits of controlling endemic diseases like FMD in developing country settings are limited (Scoones and Woolmer 2006). However by taking the whole farming system into account, and considering reductions of risk and vulnerability for the poorest groups, ILRI research has identified benefits far beyond market access (Perry and Rich 2007). In Southeast Asia, for example, ILRI highlighted the potential impact of FMD on commodity harvest cycles that depend on buffalo for draught power (Perry et al. 2002). ILRI work in Zimbabwe (Randolph et al., 2005; Perry et al., 2003) also demonstrated inequitable benefits: While improved FMD control contributes to national economic growth and benefits lower-income groups, higher-income groups tend to capture greater benefits.

Perry et al. (2005) show how out-grower schemes for export businesses, in Kenya for example, allow participation of smallholders and are an avenue for pro-poor growth. More generally, the control and eradication of disease can provide huge gains – Rinderpest eradication in South Asia significantly helped producers in Pakistan and India to access lucrative (and growing) Middle Eastern markets (Roeder and Rich 2009; Rich et al. 2011).

Methodologies used in SPS studies

The feasibility of Ethiopia's proposed SPS system was analyzed through an import risk assessment and a dynamic cost-benefit model. The former used the OIE 'Hazard Identification, Release Assessment, Exposure Assessment and Consequence Assessment' methodology.

It addressed the risk question 'If animal products of bovine or goat origin are exported from Ethiopia to countries in North and Central Africa or West Asia what is the probability of resultant introduction of exotic or controlled disease or of increase in exposure of susceptible hosts?' The dynamic cost-benefit model used system dynamics methods (Sterman 2000) to assess the evolution of profits and costs and visually identify and analyze potential bottlenecks in the system, thus better facilitating scenario analysis of intervention options necessary to improve the system.

The impact of tariff (TBs) and non-tariff barriers (NTBs) on market access for dairy products among EAC members used a spatial equilibrium modeling approach, highlighting the effects of eliminating barriers on the welfare of producers and consumers.

Prospects for market access

Our research examined the interface between market access and Sanitary and Phyto-Sanitary (SPS) barriers to trade.

In Ethiopia, this involved an ex ante assessment of the epidemiological and economic feasibility of a credible SPS certification system for disease-free meat, and compliance with export standards of Middle Eastern markets in the short-term, and developed markets in the longer term. Further ILRI work identified risks and the critical control points for them, in a feedlot-based system. In the dairy sector, ILRI looked at the potential direct and indirect impacts of removing costs associated with intra-regional

trade in dairy products among East African Community (EAC) member countries. In both cases, particular attention was paid to distributional consequences associated with improved market access.

Other ILRI studies took an ex post approach, characterizing livestock production and marketing systems for export markets based on traditional trading patterns. One was Sudan (El Dirani et al., 2008), where declining export sales to the Middle East led to a study of the entire value chain. A second was Somalia (Negassa et al., 2008) that supplies live cattle, sheep, goats and camels to the Middle East, and recent initiatives include exports of processed, chilled products. In both cases, ILRI work provided a first scientific characterization of trading systems that were perceived to be institutionally weak. In West Africa, ILRI compared elements of domestic and cross-border costs with prices of imports from outside the region, finding significant cost and logistic disadvantages.

Constraints to export market access and export success

The risk assessment in Ethiopia concluded there was a negligible risk that properly handled meat and meat products from Ethiopian cattle, sheep and goats would introduce and establish pathogens of concern to the importing countries. The results suggest that market access for livestock exports is achievable – but that other factors constrain export success. Further analysis concluded that exports to Middle Eastern markets were not economically feasible. The main cause was the high cost of feed. By contrast, the costs of the SPS certification were just 5% of product value. The systems dynamics approach showed that improving feed use through better rations or more integrated supply chains lowered system costs.

ILRI's study of cattle and beef in West Africa identified high transport and handling costs as the major barrier to trade. High fattening and logistic costs were exacerbated by lack of access to working capital.

ILRI's work in Sudan and Somalia also revealed high costs to be an export constraint. Both countries are characterized by supply from remote hinterlands, with high transport costs and loss of animal condition due to trekking. Both studies report sophisticated local institutional trading arrangements, featuring widely-used live animal

grading systems. Despite large numbers of intermediaries in both countries, the export value chains transmit some basic incentives well: Heavy penalties for rejection at destination in Sudan, and Somalia's strong link between animal size and condition and prices paid.

Between 1997 and 2005 in Sudan, El Dirani et al. (2008) reported, on average, 31% of animals offered for export were rejected within the domestic sections of the value chain; another 2% was rejected between the export and import ports. The main causes of rejection were detected symptoms of diseases. Data from 2006 found 57% flock incidence of Heart Water in one state, 64% PPR in two others, and 30% incidence of Heart Water and Sheep Pox in another. The resulting low animal productivity and high mortality, off-take rates of just 16-22% for domestic and export markets, and the high rejection rates, all contribute to high unit costs that erode export competitiveness.



Dressed chilled small ruminant carcasses in Somalia (photo: Terra Nuova)

In Somalia, animal quality was found to be governed by a ubiquitous eye-assessment scoring/grading system that closely met the needs of exporters and traders, but much less the needs of producers (Negassa et al., 2011).

With Terra Nuova, ILRI characterized the actors at each stage of a multi-layered value chain

functioning over very large distances and using highly-developed traditional governance systems (Mugunieri et al., 2008). ILRI also characterized commercial practices in the export value chain, profiling the use of livestock brokers and agency arrangements between exporters and their agents that buy from remote areas. Examination of limited data on costs and revenues revealed loss-making elements in these value chains, explained as necessary to maintain access to exporters or importing agents in the export markets.

In the EAC dairy sector, ILRI's ex ante analysis indicated that eliminating existing tariffs would raise aggregate

EAC welfare by 0.5%. Also eliminating non-tariff barriers would boost that effect to 2.1%. A projected 20% reduction in transport costs, in addition to removing tariff and non-tariff barriers, would double the gain in overall EAC welfare by 4.2%.

Response strategies

Rather than SPS-related compliance interventions, most ILRI recommendations focus on productivity via feed and improved animal health. Costs can also be reduced by technological or policy interventions. Transport remains a significant cost problem. Transactions and service costs are high due to low volumes and informal local taxes. Somalia's arrangements for export trade featured some important organizational arrangements that provided protection against risks.

Improved information flows are a pre-requisite for progress. Planning requires information on pricing and competition in international markets allows better targeting. Information shortages on disease incidence hamper efforts to increase productivity. Quality requirements, and associated price premiums, are generally imperfectly transmitted among the extensive trader networks.

Future prospects

For the future, ILRI's work on trade and market access reflects the need for enhanced information flow on one hand and multidisciplinary aspects of cost competitiveness on another. In a continuing partnership with Terra Nuova, ILRI will commence a new project in Somalia to facilitate knowledge storage and sharing on livestock systems. This will include formalization of quality grading systems, their extension to producers, and integration of past ILRI livestock genetics work in Somalia with value chain characterization.

A project in Botswana will use value chain analysis to rationalize the needs of local production and market systems with the heavily-supported export industry. This takes a holistic view of production, tackling the blends of animal species producing export beef, animal health threats associated with communal grazing, and division of responsibility between control of transboundary diseases and control of more mundane diseases.

ILRI's work on West African trade policy helped shape the regional policy initiative under the Club du Sahel's Livestock and Regional Market Potentials and Challenges in the Sahel and West Africa to 2020 and subsequent livestock compacts. Efforts at regional trade liberalization in East and West Africa included recent African Union initiatives, with ILRI expecting to play a knowledge management role in both regions.

A policy choice for many countries is the extent of commitment to disease control needed to achieve and maintain export market access. ILRI analyses show that high costs of control may be justified by benefits not directly associated with the gains from international trade. These benefits may not, however, accrue to the poor as much as to the non-poor. Current work with IFAD in Swaziland and Mozambique is examining ways to offset such imbalances by supplying capital to beef trading systems linking smallholder and poorly-resourced producers with fattening and slaughter operations for export.

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On 9 and 10 November 2011, the ILRI Board of Trustees hosted a 2-day 'liveSTOCK Exchange' to discuss and reflect on livestock research for development.

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