The Horn of Africa Livestock Market System: Lessons from Elsewhere

A report by The Economist Intelligence Unit

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Introduction

The purpose of this review is to draw on examples, interventions and lessons from pastoralist and other livestock systems across the world in order to assist in addressing the following identified problem statement:

> *"Poor conditions of sale discourage market orientation for millions of small- and medium-scale livestock keepers (pastoralists and agro-pastoralists) across the arid and semi-arid lands (ASALs) of the Horn of Africa (HOA) limiting their abilities to effectively deal with risk and increase productivity and wealth."*

The review begins by briefly outlining the background to the problem statement, detailing the key features of the livestock market system in the Horn of Africa, and the major vulnerabilities and challenges to resilience faced by pastoralists as a result. In the second section, it proceeds to identify cases from across the world that may have some relevance in addressing those challenges, in an inclusive way. Since the Horn of Africa is in many respects unique, and research into pastoralism there is at a relatively developed stage, these cases tend to suggest indicative lines of approach rather than ready-made solutions. Finally, in the third section, the paper draws together these lessons, combining them with more general research on best-practice for interventions to promote resilience in pastoralist systems, suggesting some possible ways forward.

I. Pastoralism in the Horn of Africa

Main features of the Livestock Market System

There is considerable diversity across the Horn of Africa in the practices of pastoralism, defined by the Food and Agriculture Organization (FAO) as "the use of extensive grazing on rangelands for livestock production",[1] and the trade that takes place in the livestock produced – an activity undertaken by both pastoralists and others. However, it is a significant livelihood for upwards of 30m people across the HOA. Pastoralists on average obtain more than half of their annual income from livestock sales (or up to 100% for richer pastoralists).[2] Moreover, it is not simply a commercial operation, but has deep social, political and cultural roots. In Kenya, Ethiopia and Somalia, much of the livestock trade is dominated by Somalis, and managed through cross-border clan relationships, although these are in turn reported to be giving way to more extensive business networks involving a wider range of individuals.[3] These complex transactional webs are a major employment sector in the marginalised Somali territories of the Horn, for both women and men.[4] As the cross-border trade is largely informal, these networks are vital – although their exclusivity can also lead to price distortions, monopolistic practices and lower profit margins for pastoralists.[5]

1. Key actors

Livestock marketing is a private sector responsibility in all HOA countries, and the trade is managed by "a vast network of producers and traders, financiers and transporters who have to find ways through border restrictions, excessive taxation, out-dated veterinary controls and insecurity".[6] Elites outside pastoralist areas are also involved, and the evidence suggests that it is the larger traders and richer livestock owners who capture most of the benefits of the trade, and can access the most profitable export markets, with the poorest herders barely involved.[7]

Various studies[8] have identified the main market actors in the Horn of Africa as:

- Livestock producers;
- Brokers, who mediate between buyers and sellers (*dilaal*);
- Small-scale local traders (*gedisley, gadley*, *salah waato* or *dulsar*), who collect livestock from bush markets and bring them to larger markets, or buy and sell at a profit within one market or neighbouring markets;
- Exporters' agents (*jeebel* or *urursade*), who gather livestock for export, and may fatten them and/or provide credit to pastoralists;

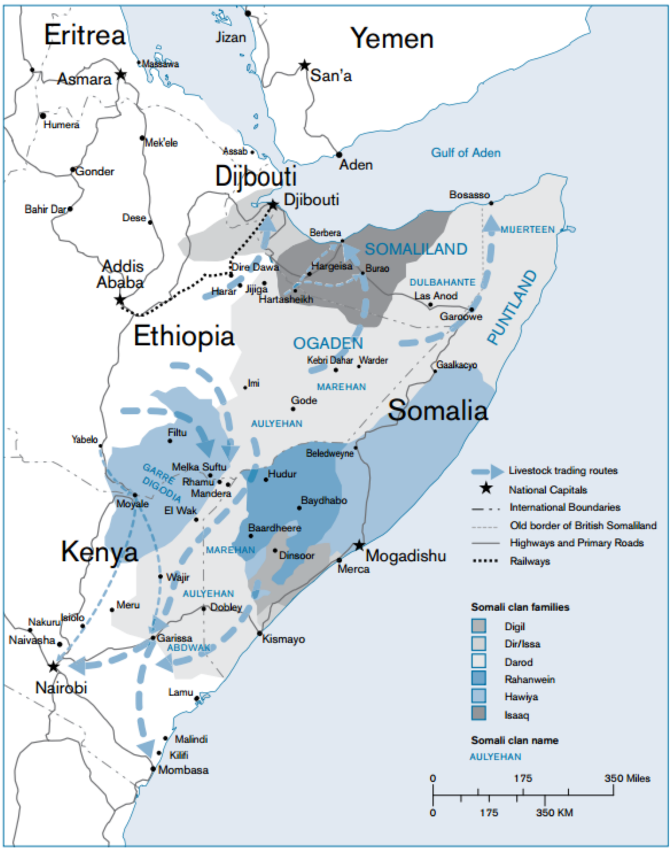
[1] FAO (2001). *Pastoralism in the New Millennium*, FAO Animal Production and Health Paper 150.
[2] FEWSNET (2010). *Cross-border Livestock Trade Assessment Report*, USAID; Yacob Aklilu and Andy Catley (2009). *Livestock Exports from the Horn of Africa,* Feinstein International Center, Tufts University.
[3] Hussein A. Mahmoud (2010). *Livestock Trade in the Kenyan, Somali and Ethiopian Borderlands*. Chatham House Briefing Paper.
[4] Nisar Majid (2010). *Livestock Trade in the Djibouti, Somalia and Ethiopian Borderlands*. Chatham House Briefing Paper.
[5] Sara Pavanello (2009). *Pastoralists' Vulnerability in the Horn of Africa*, ODI.
[6] S. Piers Simpkin (2005) *Regional Livestock Study in the Greater Horn of Africa,* ICRC, p.123; Future Agricultures Consortium (2012) *Pastoralism in the Horn of Africa,* CAADP Policy Brief, p.5.
[7] Yacob Aklilu, Peter D. Little, Hussein Mahmoud and John McPeak (2013). Market access and trade issues affecting the drylands in the Horn of Africa, Technical Consortium for Building Resilience to Drought in the Horn of Africa, p.5.
[8] Collated from FEWSNET (2010); David K. Leonard (2007) *The Political Economy of Livestock Policy Among the Somalis*, IGAD LPI Working Paper No. 05 – 08, p.11; Abdurehman Eid (2014) *Jostling for Trade*, Future Agricultures Consortium; UNOCHA (2007). *Risk Taking for a Living*, p.25-26.

- Micro-traders/micro-brokers, who for small ruminants are largely women and collect small numbers of livestock (3-5 per week) directly from small ruminant producers (frequently women) and sell them in local markets[9];
- Exporters, including powerful Somali elites and Gulf firms: large-scale companies (the "big Six" among the *shirkad* in Bossaso and Hargeisa) who ship animals abroad, or at a slightly lower level the *gana'sade*, large-scale traders who use letters of credit[10] to move livestock across the border from Ethiopia to Somalia legally, and who may, when working together, form a *shirkad*;
- Veterinary departments and port authorities.

2. *Major trade routes*

Historically, livestock trade in the Horn of Africa has been dominated by six major Somali clans, controlling different routes. There has been strong growth in livestock exports to the Gulf Arab countries over the last several decades. Following an outbreak of Rift Valley Fever, a 2000-09 Saudi ban on imports from the region changed some of these dynamics, increasing the importance of the Kenyan market within the region and encouraging the growth of ports at Djibouti and Bosasso, where quarantine facilities were available. However, since the lifting of the ban, older patterns have begun to re-emerge. The networks have been largely resistant to changing regulatory conditions and political instability in the region, with cross-border trade from the Ogaden region in Ethiopia to Somalia, for example, largely bypassing the cumbersome and formal letter-of-credit system.[11] Nevertheless, they have been affected by the rise of Islamists (Al-Shabaab) within Somalia itself, which has increased the role of multi-clan commerce in the Somalia-Kenya livestock trading sector, with clans such as the Habar Gidir becoming newly involved in areas from which they would previously have been excluded.[12]

Livestock trade routes on the Kenya–Somalia–Ethiopia borderlands



Sourced from: Hussein A. Mahmoud, *Livestock Trade in the Kenyan, Somali and Ethiopian Borderlands*. Chatham House Briefing Paper, 2010; Original source: Based on Food Security Assessment Unit/United Nations Development Programme map of livestock trading routes from the Atlas of Somalia, UN 2004, and United Nations Office for Coordination of Humanitarian Affairs/Data and Information Management Unit map of the Horn of Africa, 2007.

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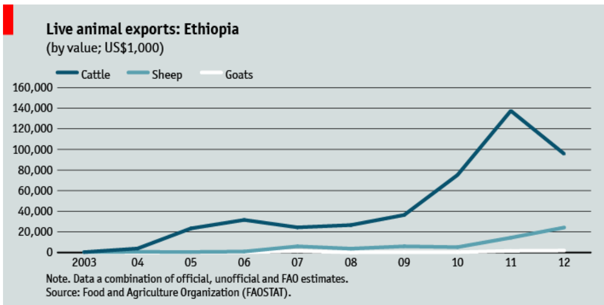
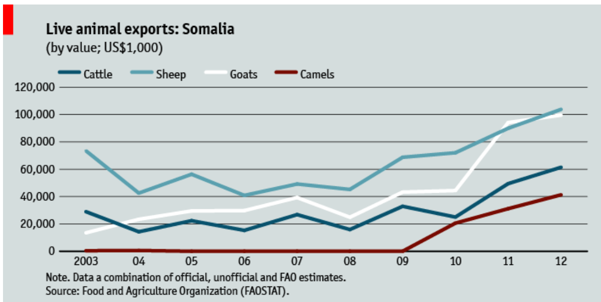
[9] Mercy Corps key informant interviews.
[10] The Letter of Credit system must be backed by foreign currency cash deposits and banked by exporting agencies within Ethiopia. It competes with illegal trade, which carries lower overheads. For additional information on Letter of Credit arrangements please see UNOCHA (2007) or Wassie Berhanu (2015). *The Informal Cross-border Livestock Trade Restrictions in Eastern Africa: Is there a case for free flows in Ethio-Kenyan Borderlands?* Addis Ababa University Department of Economics Working Paper.
[11] FEWSNET (2010).
[12] Mahmoud (2010) p.10.

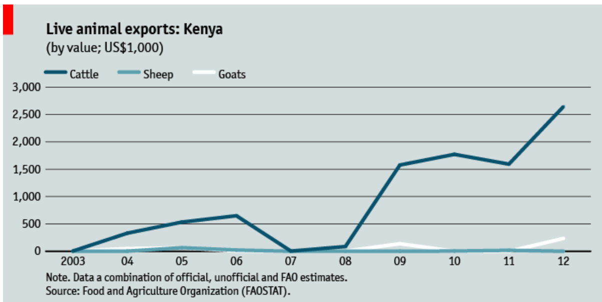
3. Livestock types and volumes



Because so much of the livestock trade is informal, exact data is in short supply. It has been estimated that informal exports from the Somali region of Ethiopia alone are between three and six times larger than the official data for total Ethiopian livestock exports.[13] The dominant species are sheep, goats and camels, mostly from eastern Ethiopia (particularly the Somali region, from where an estimated 60-80% of Somalia's livestock exports originate) and Somalia itself. The Saudi import ban in 2000, following incidents of Rift Valley Fever, led to larger herd sizes, lower prices and environmental deterioration in Somalia and Ethiopia, as well as forcing many poorer pastoralists and traders out of business. However, the volume of livestock exported increased in the wake of the lifting of the ban in September 2009.[14] Prices also recovered, rising from US$30 for a sheep in 2009 to over US$100 in 2012.[15] This trend is likely to have been exacerbated by the drought in 2011. Nevertheless, even after the ban was lifted, competitive pressure from new exporters to Gulf countries remained a concern.[16]

The Kenyan livestock trade was less affected by the Gulf ban, but had been damaged by domestic restrictions.[17] While much of the increasingly sophisticated Horn of Africa livestock trading system is oriented towards the Gulf export market, most local cross-border trade is destined for Kenya, which absorbed much of the market during the period of the ban, and now relies on livestock imported from regional neighbours for around a quarter of its domestic meat consumption.[18]





4. Livestock and Gender

Women are important actors in the Horn of Africa livestock trade, particularly in the Somali region of Ethiopia, where they buy and sell most of the sheep and goats traded. They have much less role in the cattle or camel trades, however, except in local markets. Women also tend to be concentrated either at the very small or the very large-scale ends of the livestock trade, especially the former, because they are prepared to take lower profits than men. In general, they are seen to have the advantages of being less likely to chew *qat*, the popular narcotic leaf, making them more reliable than men, and of being able to cross clan boundaries more easily. This

[13] Pavanello (2009) p.25.
[14] FEWSNET (2010); Aklilu and Andy Catley (2009) p.24.
[15] Eid (2014) p.11.
[16] Nikola Rass (2006) *Policies and Strategies to Address Vulnerability of Pastoralists in Sub-Saharan Africa*, PPLPI Working Paper 37, p.25.
[17] Aklilu and Catley (2009) p.22.
[18] Pavanello (2009) p.24.

last point is an interesting and important issue, and a subject for further research; women largely remain on the periphery of inter-clan conflicts, which allows them to work with women in other clans to build camaraderie and solve conflicts, an important characteristic in livestock trading.[19]

A. Challenges of the Livestock Market System for Pastoralists

It has long been the received wisdom that "poor livestock marketing and a lack of commercialised livestock keeping is a major constraint to the future of livestock keeping in the Horn of Africa".[20] Observers have noted that the dominance of small markets and the power of buyers in times of drought result in imperfect competition. There has consequently been significant research in the region into how to improve livestock marketing. However it has also been noted, in a comprehensive recent discussion of how to enhance resilience in the Horn of Africa, published by the International Food Policy Research Institute (IFPRI), that "many aspects of the livestock value chain work quite well", meaning that it is important to "do no harm" to these relatively sophisticated systems by intervention.[21] A 2009 paper by the UK's Overseas Development Institute (ODI), another independent research organisation, also outlines the evidence to show that past interventions to increase commercialisation have tended to support those with larger herds, boosting inequality.[22] These should be key sources to guide future work.

1. Poor conditions of sale

Livestock keepers, especially those operating on a small scale, are often at a disadvantage when they come to deal with livestock traders and brokers. They may be illiterate or innumerate, and they tend to have less access to up-to-date market information – a necessity in a constantly changing environment.[23] The clan system may mean that they face a very limited choice of traders with whom to deal. Even if traders are not profiting from asymmetric information and monopoly conditions, they themselves face high transactions costs, including significant risks of confiscation and disease as they transport animals, which are factored into the prices offered. One result is that pastoralists are not always paid in cash, sometimes being forced to accept credit instead. This has been identified as a key problem for the resilience of their livelihoods, and a major focus for the present research. Nevertheless, the problem is not simple. As Majid points out, credit "may be provided in both directions – from the pastoralist to the trader when providing animals for sale, and from the trader to the pastoralist when obtaining goods".[24] However, it is also clear that "currently credit flows from the bottom" of the value chain, from smaller-scale producers and traders to the large exporters. This is attributed by Aklilu *et al* to their excessive power in the market, and seen to result in an unfair subsidy from the poorest to the richest.[25]

2. Lack of alternative opportunities

Other challenges than poor conditions of sale can also discourage pastoralists from selling their livestock. There is a strong imperative to manage risk by increasing herd size, especially for poorer households. Maximising herd

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[19] Devereux (2006) *Vulnerable Livelihoods in Somali Region, Ethiopia*, IDS Research Report 57, p.54-5; UNOCHA (2007). *Risk Taking for a Living*, p.23. See also Aklilu and Catley (2009) p.10-11.
[20] Simpkin (2005), p.175.
[21] Derek Headey, Alemayehu Seyoum Taffesse and Liangzhi You (2012), *Enhancing Resilience in the Horn of Africa*, IFPRI Discussion Paper 01176, p.29.
[22] Aklilu and Catley (2009) p.22.
[23] Simpkin (2005) p.75; Aklilu and Catley (2009) p.39. There is evidence, however, that mobile phone technology is managing to address this issue to some extent. AFDB (2010). *Regional Study on the Sustainable Livestock Development in the Greater Horn of Africa*, p.121.
[24] Majid (2010).
[25] Aklilu et al (2013), p.13-14.

reproduction and milk production are the dominant goals of the production system, rather than marketing per se, which is "a rational economic strategy given the vulnerability context and the high economic returns from livestock relative to other economic opportunities in these areas".[26] In particular, the risk of drought, in a context with few commercial opportunities and missing markets, means that it makes sense to maximise herd size, in the hope that more animals will survive.[27] This strategy is connected to the lack of alternative investments. Livestock offer higher returns than other assets in the region, suggesting that it is only if the returns associated with non-pastoralist livelihoods can be boosted that pastoralists will be able to seek alternative strategies to manage risk.[28] At the moment, however, financial institutions do not recognise livestock as collateral when providing credit facilities – a problem affecting both traders and pastoralists.[29] A key driver behind this reluctance seems to be the lack of a formal system of livestock insurance.[30] Such insurance systems as do exist tend to be clan-based and informal, though relatively sophisticated.[31] These systems are based on trust, and while they can be effective, they are likely to exclude certain actors, and to come under pressure when risks rise.

3. Poor access to markets

Pastoralists tend to live in remote areas with extremely poor access to markets. In cases of drought, transporting livestock to distant market towns (where in any case there may be reduced demand) boosts mortality risks.[32] In addition to the long distances, widespread insecurity along many of the routes presents a major problem.[33] The extremely fractionalised livestock value chains in the Horn of Africa region are "characterized by multiple transactions between traders of different sizes… with no value addition in the process, and weak relationships between value chain actors".[34] Because of the long distances and security hazards, livestock can change hands many times over a single route, with traders staying in their own areas. This raises transaction costs and cuts returns to producers.[35] Similarly, prices in different markets do not necessarily affect each other, as traders have a limited ability to change routes, given the clan-based system.[36] As a result, many producers rely on a single marketing channel.[37] According to analysis by the African Development Bank, the Greater Horn of Africa region "suffers from dilapidated livestock marketing infrastructure (quarantine stations, veterinary checkpoints, stock routes, holding grounds) and poorly organized livestock market information systems which constitute major constraints for livestock producers".[38] There is also a shortage of commercial veterinary services. Even when new market facilities are built, these are often avoided by traders and producers, because they tend to be associated with higher taxes and fees. There have, however, been some benefits in recent years from the expansion of communications infrastructure.[39]

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26 Aklilu et al (2013) p.16; Aklilu and Catley (2009) p.4.
27 Headey et al (2012) p.9.
28 Christopher B. Barrett, Marc F. Bellemare, and Sharon M. Osterloh (2006). "Household-Level Livestock Marketing Behavior among Northern Kenyan And Southern Ethiopian Pastoralists." In John McPeak and Peter Little (eds), *Pastoral Livestock Marketing in Eastern Africa*, p.16.
29 AFDB (2010) p.128; Aklilu et al (2013) p.18.
30 USAID (2006) p.38.
31 For a fuller account see UNOCHA (2007) p.16-17.
32 Headey et al. (2012) p.27.
33 Alan M. Green, Christopher B. Barrett, Winnie K. Luseno, and John G. McPeak (2006), "Livestock Market Organization And Price Distributions In Northern Kenya", in McPeak and Little (eds), p.73
34 USAID (2006).
35 Devereux (2006) p.57.
36 UNOCHA (2007) p.2.
37 Devereux (2006) p.52-3.
38 AFDB (2010) p.116.
39 Aklilu et al (2013) p.12.

4. Problematic government regulation

Official policies in some Horn of Africa countries, notably Ethiopia, have tended effectively to criminalise the very large cross-border trade in livestock, including through random and punitive confiscations.[40] These have been largely ineffective, as border forces can harass traders but cannot interrupt the movement of animals across the long, remote borders.[41] As a result, the unofficial trade has remained much bigger than the official one, according to estimates.[42] However, periodic enforcement efforts significantly raise the risks and costs for traders, who face multiple taxation and the pressure of working without legal cover. There are also unpredictable bureaucratic costs such as new border closures or local health bans. These dynamics are major drivers in cases where traders are reluctant to pay cash to pastoralists, who, with significantly less political influence than the traders, ultimately bear the higher transaction costs resulting from these regimes.[43] More recently, the Ethiopian government has sought to generate more tax revenue by expanding formal marketing channels, with more customs points and a new licensing system. However, this seems to have been ineffective and even imposed additional costs on poorer pastoralists, who face fewer options, compared with the large traders who can make use of their networks.[44]

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40 Aklilu et al (2013) p.10.

41 Leonard (2007) p.11.

42 Michael Halderman (2004) *The Political Economy of Pro-Poor Livestock Policy-Making in Ethiopia*, Pro-Poor Livestock Policy Initiative Working Paper No. 19, FAO.

43 UNOCHA (2007) p.2.

44 Eid (2014) p.4, 8, 10. See also Wassie Berhanu (2015).

II. Experiences from elsewhere with lessons for the Horn of Africa

Following an extensive literature review of interventions designed to support pastoralist marketing outside the Horn of Africa, we have concluded that there are very few examples that are directly applicable. This is owing to two major factors. The first is that there are significant differences between the Horn of Africa and other regions. In Kenya, Ethiopia and Somalia, pastoralists' environment is marked by highly specific features, such as:

- The complete dominance of the private sector, with limited scope for state intervention;
- The need for animals to cross international borders and pass through multiple jurisdictions in the course of trade, including the normalisation of smuggling; and
- The overlap between market rivalries and tribal, national and religious conflicts.

Second, on a global scale, experts generally agree that interventions to assist pastoralists are extremely difficult to arrange and highly contextual, and that further research is needed; this may include investments in drivers of gender-aware participation in value chains, collaboration between the public and private sector to improve value chains, engagement of youth in livestock via the development of new technologies, or even potentially market diversification from traditional livestock (cattle, goats, sheep, etc.) to insects, among other areas.[45] Much of the newest research, and many of the most innovative projects, are in fact located in the Horn of Africa region itself, with its concentration of relevant institutions such as the International Livestock Research Institute (ILRI). They thus fall outside the scope of this paper, which is focused on lessons learned from other systems.

Nevertheless, a number of interesting cases warrant attention, even if they have only indirect application for the Horn of Africa; these are focused on particular successes or failures. Examples include systems in Botswana, Mongolia, Afghanistan, elsewhere in East Africa, West Africa and even, in one respect, Brazil. While the conclusions from these can only be indicative, they do provide some hints as to possible new directions and pitfalls for interventions in the Horn of Africa.

A. Botswana

One very notable case where cash has been paid to livestock producers over the long term is the Botswana Meat Commission (BMC). This longstanding government body holds a monopoly on meat exports from the country. Following a public-private sector dialogue with stakeholders, it took steps to combine support for improved production systems with measures, such as improved quality control, to secure tariff-free access to EU markets. The effect was a significant boost to producer cattle prices, herd offtake, farmer incomes and land values.[46] The BMC's Lobatse abattoir must accept all animals delivered by pastoralists, at prices set in line with regional markets, but pays a premium for higher-quality and younger animals. It has three financing schemes to encourage and regularise the delivery of these:

- The Feed-lotters Advance Scheme, which gives loans to feedlots to buy young animals from pastoralists, fatten them and deliver them to the abattoir after 40–90 days;
- The Cattle Feed Advance Scheme, which advances funds to pastoralists (in cheques made out to the supplier) so they can buy feed for animals to be sent to the abattoir;

[45] For further research areas see http://clippings.ilri.org/2015/01/23/ilri40-questions/ or McPeak and Little (eds), ch. 14.

[46] A.A. Adekunle, J. Ellis-Jones, I. Ajibefun, R.A. Nyikal, S. Bangali, O. Fatunbi and A. Ange (2012) *Agricultural Innovation in Sub-Saharan Africa,* FARA, p.44.

- The Direct Cattle Purchase Scheme, which pre-pays the pastoralists part of the price of their animals, which are branded and fattened using the funds.[47]

Nevertheless, there are limitations to the usefulness of the Botswana case. First, the BMC has faced a number of troubles in recent years. Despite massive subsidies of up to 50%, it had difficulty in remaining competitive, and excluded traditional smaller households.[48] In 2008, it lost access to the EU market due to its inability to meet traceability requirements. The state-monopoly approach was also shown to have weaknesses, with reports of "corruption, mismanagement, non-accountability and unethical practices".[49] At the ground level, there were issues with permits, lack of veterinary staff, technical problems with the reticular bolus cattle identification programme, poor information and the fact that the BMC required delivery to collection points rather than buying at the farm gate. As a result, the most remote and disadvantaged farmers seem to have failed to access export markets, accepting lower prices for domestic sales. They thus suffer from the BMC's monopoly status, as well as from exploitation by speculators.[50]

Second, the applicability of the Botswana case to the Horn of Africa is in any case very limited. For example, it is a ranching rather than a nomadic system. Moreover, there seems little chance of replicating the privileged access to EU markets that Botswana – temporarily – attained, given the multiple governments and jurisdictions in the Horn of Africa countries, as well as the lack of any effective traceability systems and prevailing sanitary conditions. State monopolies are, moreover, a major risk in countries with a history of government corruption. This is underlined by earlier failures of the Kenya Meat Commission (KMC) and the Ethiopian Meat Development Enterprise (MDE). In its first incarnation, until its dissolution in the 1980s, the KMC was known for its mismanagement, patronage and late or incomplete payments to producers. During the same period, the MDE faced similar problems, as well as huge unpopularity for its forced buying from pastoralists.[51] The KMC was reformed in 2006, but continuing politicisation risks were highlighted by some observers.[52] The fact that it signed agreements with larger livestock traders, rather than dealing directly with pastoralists, risked promoting local monopolies.[53] By 2013 it was deep in debt, with officials facing charges of misappropriation. Abattoirs in both Kenya and Ethiopia continue to complain of a lack of supply.[54]

Even so, while the overall Botswanan model, which depends on strong, unitary government control, might not be effective, some of the specific measures, particularly the use of public-private dialogue, might prove useful. Similarly, the three specific financing schemes for pastoralists, allowing abattoirs to improve quality and predictability of inputs, could potentially be replicated in a private-sector context.

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47 IIRR (2013) *Moving herds, moving markets: Making markets work for African pastoralists*. International Institute of Rural Reconstruction, p.161.

48 Richard Hatfield and Jonathan Davies (2006) *Global Review of the Economics of Pastoralism*, World Initiative for Sustainable Pastoralism, p.13-16.

49 Rudolph L. Boy (2013) "Cattle Traceability: A threat to sustainable supply of beef to EU", *European Journal of Logistics Purchasing and Supply Chain Management* Vol.1 No. 1 pp.1-9.

50 ILRI (2013a). *Financial performance of livestock households in central Botswana: Results of a snapshot survey*. ILRI Research Brief 4; ILRI (2013b). *Livestock marketing channels in central Botswana: Results of a snapshot survey*. ILRI Research Brief 7.

51 UNOCHA (2007) p.43.

52 Brendan McSherry and Jennifer N. Brass (2007) *The Political Economy of Pro-Poor Livestock Policy Reform in Kenya*, IGAD LPI Working Paper No. 04 – 08, p.21.

53 IIRR (2013) p.30.

54 Elisabeth Farmer (2010) *End market analysis of Ethiopian livestock and meat*, USAID microReport #164; Ng'eno Vincent, M.K. Korir, P.M. Nyangweso, Mary J. Kipsat, B.K. Lagat (2010) *Pastoralists Non-Responsiveness To Livestock Markets In East Pokot, Kenya*, Paper provided by African Association of Agricultural Economists (AAAE) & Agricultural Economics Association of South Africa (AEASA) in its series 2010 AAAE Third Conference/AEASA 48th Conference, September 19-23, 2010, Cape Town, South Africa with number 97090.

B. Mongolia

The World Bank has implemented some innovative projects among Mongolian pastoralists, who are largely nomadic, and account for more than 85% of the agricultural population. Currently, the Livestock and Agricultural Marketing project is seeking to improve herders' links to markets and to improve the quality of their products. A key strategy is the formation of "Productive Partnerships" along selected value chains for meat, cashmere and wool, strengthening linkages between producers and developing urban markets, including through capacity building and matching grants to support strategic investments. The project also provides extension services in the areas of animal health and nutrition, as well as the facilitation of access to credit sources.[55] While some of these interventions are fairly routine, and in all cases, with the project at an early stage, their success remains to be proven, it is worth highlighting the "Productive Partnerships" model as one that might usefully be replicated in other contexts.

The most important Mongolian success story, however, has been the provision of producer-level livestock insurance, which has been identified as an important need in the Horn of Africa (see Section I). Under the former command economy, Mongolia had a compulsory system of universal livestock insurance, which was generally seen as an economic success, spreading risks across the whole economy. Subsequently, after economic liberalisation, privatised voluntary livestock insurance faced many more problems.[56] However, in 2006 the World Bank began a pilot project to implement an index-based insurance program based on livestock mortality rates by species and area. This essentially combined three different approaches:

- Self-insurance by herders for small losses;
- Market-based insurance, through local private companies, for larger losses;
- Cover by the Government of Mongolia for catastrophic losses.

The project was initially successful, backed by a Livestock Insurance Indemnity Pool to reduce the risks to private companies, and the pilot was expanded to a national level. It was useful for both herders and companies that pay-outs were based on overall statistics, with no need for proof of the causes of death of particular animals living in remote areas. This success occurred despite ongoing challenges with accessing remote herders and educating them on how to make informed decisions about how much insurance to purchase.[57] The major challenge was a severe ice storm that happened before funds had been built up, causing a financial crisis and emergency intervention.

This is certainly a model that should be studied and applied, as appropriate, to the Horn of Africa, particularly with regards to producers' reluctance to sell animals—producers can operate with smaller herd sizes if they have insurance. However it is again worth noting the significant difference in the two cases. For example, in Mongolia, a good census system of all livestock already existed, left over from the command economy era, enabling construction of an appropriate index. There is also a significant economic distinction between insurance against sudden risks (the *dzuds*, or ice-storms, prevalent in Mongolia) and slow, protracted ones (the droughts that present the main challenge in the Horn of Africa). It would therefore be important to put the Mongolian experience in the context of the work that has been done on livestock insurance locally – for instance, a recent ILRI project in Kenya, which, in the absence of good livestock data, has been using satellite images of vegetation to construct an index.

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[55] World Bank (2013a) *Mongolia Livestock and Agricultural Marketing Project (LAMP) Inception Report*.
[56] Jeremy Swift (2002) *Financial services for risk management in pastoral systems*, NRI, p.5.
[57] Kirsten Luxbacher and Andrew Goodland (2011). "Building Resilience to Extreme Weather: Index-Based Livestock Insurance in Mongolia," World Resources Report Case Study.

C. Afghanistan

The US Agency for International Development (USAID) has engaged in a number of recent projects with nomadic herders in Afghanistan, known as Kuchi, who have been heavily affected by recent conflicts and drought. In 2006-2013, the Afghanistan Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) Project focused initially on introducing a livestock early warning system and a market information system. However, success seems to have been limited, partly due to the inability of the government institutions to retain trained personnel, which prevented the early warning system from functioning. Insecurity and conflicts over access to resources also remained major barriers to production, and thus conflict resolution became the major focus of the project in the second phase, although its impact does not seem to have been transformative.[58] The critical lessons in this case seem to have been negative, regarding the need to focus on the major political barriers as well as, or even prior to, the necessary technical improvements. Equally important was the need to focus on the importance of capacity within government ministries for sustainability.

There is, however, an even more interesting USAID project in Afghanistan, even though it does not relate directly to pastoralism. In 2010, USAID set up a US$100m Agricultural Development Fund, which offered Afghan farmers both conventional and Islamic loans. As Afghanistan does not yet have a law governing Islamic finance, this role could only be taken by a fund, rather than by banks. Uptake has been strong, especially in conservative rural communities: around 70% of loans in 2011/12 were sharia-compliant, with lenders being repaid through returns on real assets, using five specially formulated contract models catering to specific needs. For example, one contract included early down-payments to allow the purchase of agricultural inputs. Associations and cooperatives, as well as individual farmers, were major clients.

One notable lesson was the need for public education – customers knew about the prohibition on interest, but some were under the misapprehension that Islamic loans should be free, or at least cheaper than conventional finance. There was also apparently a need to educate farmers and clerics about "the fact that non-payment by a solvent borrower is a sin".[59] A second lesson to note is that Islamic financial products need to be carefully formulated and tailored to suit specific contexts and products. While these contracts may well therefore not be applicable to Horn of Africa pastoralists, the process through which they were formulated should be studied carefully. Examples of projects offering sharia-compliant loans for pastoralists in Kenya and Ethiopia already exist, and the Afghanistan case should be analysed in this context. Finally, as has been noted in reports on projects offering various other financial products, it seems that cooperatives may sometimes be better clients than individuals, as they seem to be more likely to repay loans.

D. Brazil

Again, in a very different context, we note the recent case of Islamic financing, using *wakala* and *murabaha* structures, for beef fattening and export being offered in Brazil. This was set up by a UAE firm, Abu Dhabi Equity Partners, and directed at large-scale ranchers rather than small-scale traders or pastoralists, so the detailed model is irrelevant.[60] However, the broader point is that the demand for this Islamic funding is based on the fact that the cattle will ultimately feed Gulf markets, where some consumers are increasingly aware of the Islamic credentials of their food. As the managing partner of Abu Dhabi Equity Partners pointed out, "Shariah-compliant funding of the growing multibillion dollar halal food industry is a natural yet untapped market segment."[61] This

[58] USAID (2013). Executive Summary of Final Report on the Afghanistan Pastoral Engagement, Adaptation and Capacity Enhancement (PEACE) Project. For more information, see http://cnrit.tamu.edu/peace/index.html.
[59] Bernardo Vizcaino (2013) "Islamic finance a boost for USAID's Afghan farm fund", Reuters.
[60] Yudith Ho (2014) "Brazil's First Islamic Loan to Fatten Cattle as Trade Grows", Bloomberg.
[61] Ho (2014).

suggests a possible motivation and leverage for the provision of funds that could be used to supply Islamic finance to small pastoralists and traders in the Horn of Africa countries, given that their livestock are also largely destined for Saudi Arabia and the other Gulf Arab states.

E. East Africa

It may also be helpful to look more specifically at examples among neighbouring countries in the Horn of Africa, given the broadly similar levels of development and climatic conditions. For example, in Uganda, the 2008-15 Meat Export Development Programme formed pastoralist cooperatives that had some success in improving terms of trade and market access for their members. A Uganda Meat Export Company was established, and disease control zones were supposed to be established – although these seem not in fact to have been operationalised.[62] The programme sought to enable pastoralists to involve themselves in policy decisions. An abattoir was also established, as a public-private partnership, with pastoralists owning 51% of the shares.[63] This model, if it could be copied, might address some of the problems of political patronage experienced by the Kenya Meat Commission (KMC) and others.

A major livestock marketing project was also implemented in Tanzania in 1997-2005. This project focused on building and rehabilitating necessary infrastructure, including night camps, markets, checkpoints, holding grounds, railway sidings, cattle wagons and an abattoir (later privatised). It also established a meat industry training centre and a web-based livestock marketing information system. The effect was to reduce animal deaths during transit and to boost exports, improving the prices offered to livestock keepers. Producers and traders were therefore reported to be willing to pay the higher fees – although not exclusively, with informal trade across the border remaining strong. Pastoralists in particular did not seem to increase formal sales, partly because of the long distance from their rangelands to the abattoir. They continued to show a preference for informal routes, and ten of the border markets built by the project did not actually function.[64]

As Tanzania is a country with a livestock sector focused more on smallholder subsistence than on pastoralism as such, the lessons are unlikely to be fully replicable in the Horn of Africa.[65] Nevertheless, it is important to note the sustainability inherent in the charging of higher fees, as well as the possibility of the private sector taking over key responsibilities that should not fall within the remit of the government. This is a model that might also help to avoid some of the problems faced by the KMC, if the privatisation could be both transparent and competitive, avoiding any private-sector monopoly situation.

F. West Africa

The livestock industry is also important in much of West Africa, where a number of projects to improve markets have been tried. One example is in Benin, where a 2009-11 initiative aimed to give pastoralists increased controlled of the Doguè market in Bassila municipality, limiting what were seen as the excess profits derived by influential brokers. All market stakeholders were helped to create a general assembly, and agree a new common vision. Transparent fees for buyers and sellers were agreed, and the role of brokers was changed to a supervisory and record-keeping one. Funds from fees were used for further market improvements, and an elected management committee was established. The effect was reported to be a significant strengthening of

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[62] Miriam Kabagunga (2015). "Counting the Cost of Foot and Mouth Disease Outbreaks", *Daily Monitor*, Uganda, 20 May 2015.
[63] IIRR (2013) p.150-151.
[64] IIRR (2013) p.148-149.
[65] World Bank (2013b). "The Role of Livestock Data in Rural Africa: The Tanzanian Case Study", http://www.worldbank.org/en/news/feature/2013/10/03/the-role-of-livestock-data-in-rural-africa-a-tanzanian-case-study.

livestock keepers, who had previously been the weakest players in the area. Market turnover also increased almost tenfold over three years.[66]

While this case study is highly interesting, it should be applied to the Horn of Africa only with extreme caution. It is useful to note that bringing market stakeholders together for discussions can lead to consensual systemic changes. However, the history of market refurbishment and reorganisation in the Horn of Africa has been very mixed, with new fees often acting as a disincentive to formal participation, leading to the creation of informal markets nearby. It can be risky to attempt to bypass brokers and middlemen on the mistaken assumption that they are profiteering. In some places, they are playing an important economic, social or cultural role – and even where that is not the case, upsetting local balances of power may have unforeseen consequences.

The need for caution in this area does not only apply to the Horn, but even to other cases in West Africa. In Sokoto market in Nigeria, for instance, a high level of insecurity, driven by crime and corrupt practices, appears to be addressed by informal insurance systems. In the absence of any government or other assistance,

> "Social networks and support from fellow traders and *dillalai* [brokers] have pulled a number of the respondents from the brink of ruin... All the market associations have the practice of helping one another in a period of crisis or calamity. If a member incurs any loss, he is assisted by his fellow colleagues either through a fixed amount charged to all members. The total amount raised is handed over to the affected person. If what is raised is inadequate, the association may lend the affected person some money to continue with the business."[67]

While these informal systems have their disadvantages, when they are operational (and in the absence of proven alternatives), they should not be undermined through interventions that may damage existing social structures.

[66] IIRR (2013) p.154-155.
[67] Fatima L Adamu (nd) "The role of informal market institutions in trading and market security: the case of Acida livestock market in Sokoto", Dept of Sociology, Usmanu Dan Fodiyo University, Sokoto. Accessed at: http://community.dur.ac.uk/nigerian.marketing/.

III. Key findings on good practices for pastoralist market systems

Given, then, this range of experiences outside the Horn of Africa, set against the earlier review of the specific conditions in that region, the question remains: what sort of interventions might improve the functioning of the livestock marketing system in that region, enhancing the resilience of pastoralist livelihoods? Based on the foregoing, and the core question around poor conditions of sale, in particular the problem of traders failing to pay pastoralists immediately and in cash, two subordinate questions emerge. First, how can poor pastoralists be strengthened to negotiate with traders on a more equal basis? And second, how can small traders be helped to mitigate the risks of their activities in the Horn of Africa, increasing their liquidity?

The key findings based on experiences outside the region remain indicative, and must be analysed in the context both of ongoing work within the Horn of Africa itself, and of more general research on good-practice interventions in pastoralist systems. These indicative findings are organised under the key headings identified by the Global Resilience Partnership: technology; innovative financing; policy and influence; measurement and diagnostics; and learning and networking.

A. Technology

1. Infrastructure

The efficient improvement of physical infrastructure has been identified as a key intervention to assist remote pastoralists, and increase their marketing options. In a West African context, ILRI has pointed out that new roads "reduce marketing costs, promote social capital, and insure against distress sales".[68] Similarly, the Tanzanian case study demonstrated the usefulness of enhanced infrastructure, including railways, to reduce animal deaths during transit and boost exports. Nevertheless, a warning note was sounded in this project, with pastoralists less likely than other livestock producers to pay the higher fees and move into the formal sector. A similar ambiguity applies to the case of Benin, where improvements to the physical structure of the market certainly contributed to better terms for livestock owners. This must be set against the reported cases in the Horn of Africa where the cost-benefit analysis for infrastructure investments is often miscalculated. Markets may be improved but are then ignored by pastoralists, who prefer to trade nearby without the new taxes and fees charged as a result of developing new infrastructure.

2. Animal health

There is also a need to focus on new technologies to enhance and monitor animal health—always an issue of key concern for pastoralist livelihoods. Again, ILRI strongly recommends investment in advanced public research, "especially in veterinary epidemiology, disease surveillance, in diseases related to animal confinement and production intensification".[69] The health aspect is crucial not only for production but also for marketing – not only did Rift Valley Fever decimate exports from the Horn of Africa, but the Botswana case is also an excellent example of the importance of an efficient veterinary control system, with its failures causing a loss of access to EU markets.

3. Telecommunications

Finally, there is the acknowledged importance of market information systems, which depend on communications technology. While the performance of the most advanced donor-funded system has been mixed – for example, in

[68] See http://www.ilri.org/ilrinews/index.php/archives/tag/chad.
[69] See http://www.ilri.org/ilrinews/index.php/archives/tag/chad.

Afghanistan – it is certainly true that, for example, wider mobile phone ownership has to some extent levelled the informational playing field between pastoralists, brokers and traders. It is also clear that there is potential for this to go much further, as not only mobile phone technology but also related functions – such as mobile financial services, and participatory disease surveillance[70] – are constantly advancing.

B. Innovative Financing

1. Livestock insurance

The potential importance of livestock insurance, in particular micro-insurance for both traders and pastoralists, is strongly attested in the literature, given the high risks of the sector and the need to use livestock as collateral. So, too, however, is the very limited best-practice experience; the long-term sustainability of livestock insurance remains unproven. While there have been some partial successes in Mongolia, the Horn of Africa lacks the kind of sectoral information available there, and is much more vulnerable to slow, protracted crises, notably drought, which would make the direct transfer of experience difficult. However, the approach taken in the ILRI pilot project in Marsabit, Kenya, is certainly worthy of further study.[71] Jeremy Swift has also identified some general warning lessons derived from the more extensive experiences of crop insurance.[72]

2. Sharia-compliant micro-credit

More widely available micro-credit is a key need in this area, with credit to smaller traders potentially enabling them to pay producers in cash (assuming other measures to guarantee equity). Likewise, credit to pastoralists enabled them to improve the feeding of their animals, and restock after droughts. The literature suggests that many of the more successful projects have been loans through NGOs, but that more sustainable micro-credit from financial institutions may be incentivised if livestock are insured (and so can be used as collateral), and if cooperatives rather than individuals are the ultimate borrowers. The Botswana case included three specific models of credit to pastoralists for livestock fattening, which could be studied further to assess their suitability for transposition to a private-sector context. Credit can also be linked to savings (an important need for pastoralists, particularly to boost resilience to drought), which could be encouraged on the back of the growing mobile banking sector.

In the Horn of Africa, many producers and traders would prefer the option of Islamic financing. There are few examples of Islamic finance for small livestock keepers – although the Anolei camel milk project in Kenya is one case within the region that could certainly be built upon.[73] Outside the Horn of Africa, some useful lessons came from the Islamic loans provided to Afghan farmers, including the need for public education on costs and obligations, and the need for very specific tailoring to the specific industry and context. The fact that a Gulf financial institution was prepared to finance cattle fattening in Brazil, while on a very different scale, suggests a route to investigating possible Islamic financing sources, based on the preferences of end-users.

[70] See Swift (2002).
[71] See http://www.ilri.org/ilrinews/index.php/archives/tag/marsabit.
[72] Swift (2002) p.6.
[73] See http://www.snvworld.org/download/publications/anolei_women_camel_milk_cooperative_in_kenya.pdf..

C. Policy and Influence

1. The regulatory environment

A point that emerges clearly from all of these case studies is that a conducive regulatory environment, and appropriate government policy, are critical to the success of efforts to support pastoralists. This is a key lesson for the Horn of Africa, and particularly for Ethiopia, where the government's policies regarding cross-border livestock trade have been a major burden on the sector, encouraging rent-seeking; even recent reforms seem to have done little to rectify the situation. Taxation systems need to be well designed, and government employees effectively incentivised. Effective regulation could also help to foster better (and less burdensome) disease control systems, and more enforceable contracts. Afghanistan is a case that showed the need to focus on the major political barriers first, as well as underlining the importance of capacity within government ministries for project sustainability.

2. Informal structures

Beyond formal government structures, it is also important to take into account informal systems and power structures. Based on the West African cases, it is suggested that, in the absence of proven alternatives, it is very important not to risk undermining existing social structures through ill-considered interventions. There is certainly a role for further detailed research into the existing clan-based support networks in the Horn of Africa – taking into account both their undoubted strengths, and the fact that they exclude and marginalise some actors.

D. Measurement and Diagnostics

1. Value chains

Various projects have emphasised the importance of detailed market analysis, of both local and export markets, in order to enhance the conditions of sale for pastoralists. A focus on value chains should enable an understanding of how pastoralists' share of the ultimate proceeds might be boosted, not least by enabling them to produce and sell value-added products. The Botswana case is only one example among many; the "Productive Partnerships" created in Mongolia are also an interesting model. But this requires careful economic analysis, to determine whether further market share exists, or what the demand might be for new products.

2. Transaction costs

A detailed understanding of value chains may also suggest means of reducing the transaction costs faced by pastoralists. In some cases, the costs of participating in formal markets may be far too high for small producers. In others, a large number of middlemen may take a high proportion of the profit – although it is important to balance this consideration against the livelihood needs and, indeed, key role in the market, of small brokers and traders.

E. Learning and Networking

1. Social capital

Again, in a West African context, ILRI has emphasised the great importance of creating social capital for pastoral peoples, in many different respects. These include:

- The provision of free social services, including education, health and social protection, which increase incomes, resilience and alternative livelihood options;
- Giving pastoralists legal entitlements to rent income (for example, from minerals, wildlife, tourism) in their regions, with similar effects;
- Giving legal pasture land entitlements to pastoral groups—although it is suggested that these should not be individually tradable, owing to the risk of land grabs.[74]

There is also the need to ensure that interventions protect existing social capital in its many forms – requiring, as do many of these recommendations, intensive local research in the Horn of Africa systems.

2. *Bringing together stakeholders*

One final, very clear lesson from the international examples is that there can be large benefits from bringing together the various stakeholders, in genuinely participatory planning processes. On a small scale, this is important to the formation of cooperatives, which worked well to support pastoralists in Uganda, and have also often been created by projects in the Horn of Africa. Such cooperatives may in some cases be able to engage more directly in trade than individual producers, and may also more easily access credit. In certain cases it has been noted, though, that project formation of cooperatives can be less effective than working with established groups, who tend to know their own needs and operate more consensually. When cooperatives attempt to replace traditional systems, there have also been notable failures.

Wider groups of stakeholders can also be brought together to contribute to policy formation. The market improvements in Benin were based on decisions made, and an association formed, by all market participants. Similarly, successful reforms in Botswana were founded on the results of extensive public-private dialogue. Cooperation between the public and private sectors has also been useful elsewhere – with joint ownership of an abattoir in Uganda, and privatisation of institutions set up by the government in Uganda. When well designed, these transitions can support sustainability.

[74] See http://www.ilri.org/ilrinews/index.php/archives/tag/chad.

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