Paper for the VCA4D Conference: **Value Chain Analysis for Development: providing evidence for better policies and operations in agricultural value chains**

18-19 January 2023

BEEF VALUE CHAINS IN ESWATINI AND ZIMBABWE: A COMPARISON AND SYNTHESIS FROM THE PERSPECTIVE OF VALUE CHAIN GOVERNANCE

John Morton (Corresponding author)[1], Abdrahmane Wane[2], Ben Bennett[1]

[1] Natural Resources Institute, University of Greenwich, Chatham, UK

[2] CIRAD, Montpellier, France and International Livestock Research Institute, Nairobi, Kenya

The paper was produced through the financial support of the European Union (VCA4D CTR 2017/392-416). Its content is the sole responsibility of its authors and does not necessarily reflect the views of the European Union nor of the VCA4D project.

Abstract

This paper capitalises on findings from the VCA4D studies on beef value chains in Eswatini and Zimbabwe, countries that share important geographical, cultural and economic features. After a review of EU policy on livestock development and on meat import from Southern Africa, which depends on national capacities to maintain and demonstrate disease-free status, the paper reviews literature on value chain governance and the concepts of vertical and horizontal integration, and introduces the concepts of complexity of transactions, codifiability of transactions and supplier capabilities, which are key determinants of modes of value chain linkages (particularly market-based and hierarchical, and the degrees of explicit coordination and power asymmetries within value chains. The paper then expands on the issues of land tenure treated in the VCA4D studies: the two countries share histories of settler colonialism. In Zimbabwe a brutal history of land seizures and evictions under colonialism, the War of Liberation largely as a response to that, and the chaotic Fast Track Land Reform, have led to a breakdown of animal disease control, an end to meat exports, a complex mapping of land tenure categories onto production systems and a relative confluence of downstream value chains. In Eswatini more subtle power dynamics resulted in a higher proportion of land reserved for African smallholders, less saliency of land as a political issue, but a higher separation of value chains with smallholders less likely to supply cattle for export. In both countries cattle retain considerable cultural value and multiple use values such as draft power and manure, which affects smallholder behaviour within value chains. Value chains in the two countries are placed in three categories by their degrees of vertical coordination: reputation-based spot markets in communal areas, a more formal but still reputation-based domestic market (these two value chains are found in both countries), and an export market (found only in Eswatini). Horizontal coordination in all these value chains is limited. A final section discusses the different risks to value chain operations: risks external to the value chains, risks to be maned through vertical integration and government policies, and risks to be managed through better horizontal integration (with government support). Recommendations are made for policy and for future analysis of livestock value chains.

Introduction

Production and trade in meat from developing countries is of particular interest to policy makers because of continuing demand for meat in Sub-Saharan Africa, the extreme perishability of the commodity, the risks of transboundary disease transmission, and the importance of the World Organization for Animal Health (WOAH) and the EU as standards-setting bodies. This study will capitalise on the completion of two studies on the beef value chain in two countries of Southern Africa, carried out under the VCA4D (Value Chain Analysis for Development) project. The studies show *common features* in terms of multi-functionality and cultural value of cattle, and dualistic land tenure with communal/open access grazing management in the smallholder sector, and *contrasts* in the extent of disease control currently achieved, and the political situation. This study shows how these contextual factors can inform an analysis of value chain governance.

The VCA4D programme[1] is implemented by Agrinatura on behalf of the European Commission and performs value chain analyses on selected agricultural commodities in developing countries in Africa, Latin America, Asia and Oceania. These studies use a common structure and methodological framework to appraise VCs from an economic, social and environmental perspective. They are structured by four framing questions:

- FQ1: What is the contribution of the VC to economic growth?
- FQ2: Is this economic growth inclusive?
- FQ3: Is the VC socially sustainable?
- FQ4: Is the VC environmentally sustainable?

This synthesis uses elements of responses to all four questions from studies of the beef value chain in Eswatini (Wane *et al*., 2019) and Zimbabwe (Bennett *et al*., 2019). These studies were each carried out by teams each composed of an economist, an environmental expert and a social sector expert recruited internationally, with one high-level national consultant assisting work across all three domains.[2] Work consisted of review of secondary data and existing reports, and fieldwork involving extensive stakeholder interviews, and qualitative and quantitative data-gathering with VC actors. Economic analysis was carried out using the AFA software. Fieldwork took place over late 2017 and early 2018.

After an overview of EU cooperation policy in the field of livestock sector development, and EU policies for meat import from Southern Africa, we present:

- A conceptual review of value chain theory, especially as it applies to meat and livestock value chains, leading to a definition of value chain governance and elaboration of an analytical framework for value chain governance
- Background sections on two key aspects of the context, the political economy of land and the multifunctionality of cattle in Southern Africa
- The analysis of beef value chain governance in the two countries
- Conclusions, including how value chain governance influences risk in the two countries.

The EU Policy Context

Two aspects of EU policy are relevant to the value chains in question, and to this study aimed at learning lessons from them: EU cooperation policy on livestock, and EU policy on meat import from Southern Africa, which is a subcategory of EU policy on meat imports in general

[1] See https://europa.eu/capacity4dev/value-chain-analysis-for-development-vca4d-
[2] Of the current authors, Wane and Morton were team members for the Eswatini study, and Bennett for the Zimbabwe study.

and involves a consideration of the role of the World Organisation for Animal Health (WOAH - formerly the OIE or *Office International des Epizooties*).

Overview of EU Cooperation Policy on Livestock[3]

Support for the livestock sector in developing countries is implicit in the 2017 *European Consensus on Development*, (European Union, 2017) as part of the European Union's response to the Sustainable Development Goals. Support to the livestock sector can be seen as crucial to at least three of the themes ("the five Ps") of the Consensus, given the importance of livestock to nutrition and livelihoods, including those of the poor, but also concern about the sector's environmental impacts:

- Under **People**, the EU and its Member States "will work to ensure access for all to affordable, safe, sufficient and nutritious food", with particular attention to vulnerable groups including children under five. The EU will also "take action to address global health threats such as epidemics and antimicrobial resistance".
- Under **Planet**, "environmental considerations need to be integrated across all sectors of development cooperation" and the Consensus specifically mentions "the conservation and sustainable management and use of natural resources" as well as tackling desertification and drought. In the livestock sector these obligations can be and are fulfilled through work on sustainable land management in pastoral and other dryland areas, where livestock are a major source of livelihoods, as well as programmes that more explicitly address the problem of greenhouse gas emissions from livestock and crop-livestock systems.
- Under **Prosperity**, the Consensus recognises sustainable agriculture as a key driver for poverty eradication and sustainable development, mentions support to pastoralists as of central importance, and participatory rangeland management as an important governance issue for agriculture, but the contributions of livestock to soil fertility, and in some regions farm power, within mixed crop-livestock agriculture are also relevant.

The European Commission's *Farm to Fork Strategy* (2020) specifically mentions inclusive and fair value chains, animal health and welfare, food safety, antimicrobial resistance, and coordination of development and humanitarian interventions.

EU cooperation funding related to the livestock sector amounted to €2654 million between 2014 and 2020, or 19% of EU funding for Food and Nutrition Security and Sustainable Agriculture. 76% of livestock-related funding was allocated to Africa, and the great majority was in project-type interventions. Taking global funding in a single year, 2019, 56% was allocated to multi-purpose projects integrating livestock activities, and only 11% to projects where the main purpose involved livestock. Across those levels of "purpose", and taking "policy orientation" as used in EU data, €24.9 million (4%) was allocated to Animal Health and Food Safety, and €71.9 million (13%) to Livestock Industry Development (the majority of the funding was allocated to multi-aspect food security, capacity-building and agricultural research support).

In Zimbabwe the EU was largely responsible, through project support and trade policy, for the massive abattoir and veterinary investments in the 1980s. The EU has more recently supported the smallholder sector through various NGOs because of reluctance to provide support through the government. In Eswatini, the EU funds the Eswatini Livestock Value Chain Development Programme, which is running from April 2020 to March 2025.

[3] This section draws heavily on the document *EU Support to the Livestock Sector State of Play 2021* (European Commission, Directorate-General for International Partnerships, 2023).

EU Policy on Meat Imports from Southern Africa

The rules for global trade in meat and meat products are established by the WOAH under the Agreement on the Application of Sanitary and Phytosanitary Measures and Codex Alimentarius. Strict controls on the movement of these products to contain economically important trans-boundary diseases are implemented by competent authorities in the countries concerned on the basis of WOAH rules and of standards agreed between nations. Access to markets requires compliance of national veterinary systems and infrastructure. The long-term result of this has been to limit the size of world trade in meat and meat products (currently 14% of all trade) and concentrate this export trade in fewer countries who are able to meet the standards (Enaharo *et al*., 2021). This trade is also concentrated by product type: formal beef trade is mostly in boneless, frozen cuts and some offal, informal trade is largely in live animals.

The most influential policy intervention impacting on the beef sector in Southern Africa is the reduced tariff quotas supplied to certain countries for reduced import tariffs on specific cuts of beef. This was agreed under Protocol 7 of Lomé IV in 1989 and included 9,100 tonnes for Zimbabwe and 3,363 for Eswatini, with larger quotas for Namibia and Botswana. As well as being boneless and frozen, this quota only applied to product meeting the strict EU animal health requirement. This means, amongst other diseases, freedom from Foot and Mouth Disease (FMD) requiring proven disease-free zones, traceability and externally verified veterinary control infrastructure. The EU does not accept FMD freedom by vaccination, so other measures to ensure FMD freedom have to be in place. In Zimbabwe this meant a division of the country, largely through fencing, into FMD-free and FMD-endemic zones, with the former largely corresponding to commercial farmland. Eswatini was able to maintain its entire territory as FMD-free, despite being surrounded by South Africa and Mozambique, that do not have this status.

Access to these highly lucrative markets drove policy and investment in the agricultural sectors of both countries. In Zimbabwe, with land reform and the collapse of the national veterinary control infrastructure (and subsequent FMD outbreaks) market access was lost and exports fell away. In Eswatini it has been possible to continue utilising the quotas. A strategy based on using a British based meat marketing firm and improved generic branding has led to successful penetration of several European markets, including Denmark, the United Kingdom and Norway. Eswatini has struggled to maintain the necessary infrastructure to keep this market open and has recently lost access for failing to maintain the necessary paperwork to comply (Afrol, 2022). The volume of export was, in any case, surprisingly small (12 tonnes in 2018).

It is interesting to consider how market access for beef to high value markets is an effective impetus to generating improved incomes for small holder farmers. Bennett and Rich (2019) show that the benefits are largely captured as rents within the value chain in Namibia and Botswana. One element of rent capture in highly diverse and bifurcated production systems, which is often under-estimated, is that the complex and highly differentiated nature of the products and by-products that make up the value of an individual animal represent a huge opportunity for value capture. The extent to which a given beef production system can maximise this value depends on the ability to find and exploit markets for many different ‘cuts’ from each animal. The “success” of the very small exports from Eswatini, Namibia, Botswana and Zimbabwe to Norway is driven by the ability of abattoirs to maximise the value of prime, frozen guaranteed FMD free cuts which allows them to sell lower quality cuts competitively in the low value local market. In Eswatini, the impact of the weak buying power of workers drives prices 20% lower that the world average. This is despite the fact that these markets are highly protected by import tariffs. Beef production costs are lower in third countries (i.e. countries

outside the regional trade agreement, such as India), but the regional policy (i.e. for countries within the Regional Trade Agreements: SACU and SADC) favours the transfer of value from beef consumers to producers. Because small-scale producers are often more geographically remote from markets and may also use cattle for other purposes such as ploughing or risk management, there is a tendency for economic rent from the external tariff policy to be captured most by larger-scale producers.

In Zimbabwe and Eswatini, the national policies have a bias towards facilitation of formal production and marketing (e.g. by funding animal health infrastructure through public funds) that effectively transfers value to larger-scale beef producers. These perverse policy impacts are little understood and under-researched. What this highlights is a consistently under-nuanced EU investment strategy in the Southern African beef sector with consequent public criticism for policy incoherence between trade and development objectives (see for example Halderman and Nelson 2005, pp 9-10). This has been made more complicated in the past by occasional 'import surges' of meat, animal feed and processed food products that may have received different types of support or subsidy from the EU and other third countries into these markets, with consequent accusations of policy incoherence (Jooste and van Schalkwyk, 1996).

Value Chain Governance: Theory and Concepts

Overview

A widely held view in the sector and economic development is that linking rural smallholders to high-value or growing markets (Henson and Jaffee, 2006) is a necessary condition as markets create value and provide positive impacts on poverty reduction (Bhagwati and Srinivasan, 2002; Dollar and Kraay, 2004; Maertens and Swinnen, 2009). Although causality is not fully proven and only correlation effects have been demonstrated, this idea remains entrenched and there is a strong injunction to connect rural smallholders to lucrative markets. Another common idea is the need to reduce physical distances to markets by facilitating access through new infrastructure, although in East Africa, simulations on the presence of infrastructure programs show a mixed impact on long-term sales (Baldwin *et al*., 2001).

However, when attempting to connect to a lucrative market such as meat, small-scale producers face two major constraints: their market behaviours and contractual arrangements including quality agreements (Jaffee and Henson 2005; Henson and Jaffee, 2006; Royer *et al.* 2016).

Market behaviour of smallholders is complex. This complexity is exacerbated by the shock-prone environments in which they operate (Barrett *et al*., 2012; Bijman, 2008; Wane *et al.*, 2020). Smallholders offer livestock to the market under different motivations. For many, they sell livestock primarily to meet consumption needs, and do not seek systematically to sell livestock beyond that threshold. This strategy stems from the fact that animals are kept by such producers for the variety of benefits they provide to the household (milk, butter, draught power etc., as well as intangible social and cultural benefits). As an asset, they are only offered to the market if they exceed a point at which the benefits provided depreciate or even become less than the costs of keeping them, which means that animals offered for sale are often cull animals, and that quality standards are not a prime consideration (even when they are communicated to smallholders). In Southern Africa in particular – as will be set out in detail below - the reasons for keeping cattle are multiple, subject to change between locations and over time, and include important non-economic values.

Cattle numbers are not systematically correlated with environmental factors and do not generally determine beef supply. The supply of cattle responds to various factors such as prices, which can have an ambivalent effect - if smallholders supply cattle to cover immediate cash needs, rising prices may lead them to put fewer animals on the market. This phenomenon persists in southern Africa and has also been observed in West and East Africa, where what could characterize and differentiate communal and commercial systems, beyond the production aspects, are the behaviours of producers. On the one hand, market-oriented producers in commercial systems are profit maximisers who participate in the market to buy livestock as an input, fatten it after a certain time, and sell it as a finished product at high prices, while producers in communal systems, who in Southern Africa are also disadvantaged by the legacy of land appropriation by settlers – lack of tenure security, poor management of communal grazing and poor access to services like extension - try to secure both production and livelihoods in the face of the uncertain global context (Behnke *et al*., 1983; Wane *et al*., 2010). The objective function of small-scale producers in extensive and pastoral systems is a composite utility function that balances their short-term consumption needs with their long-term herding strategy to meet future consumption (Fadiga, 2009; Wane *et al*., 2010). For these reasons, they participate in the market opportunistically. Market fundamentals are not the primary drivers, and cultural, social, and non-market factors often play a larger role in producers' decision to sell. Thus, grazing systems cannot be measured solely in terms of endowments, as they continually evolve and adapt to respond to an increasingly uncertain biophysical environment and a progressively monetized commercial world (Chambers, 1990; Van Dijk, 1997; Bovin, 2000).

In cattle production, the degree of perishability of products varies. Due to its microbiological and biochemical composition, fresh meat is highly perishable. Although less perishable than meat, live cattle require several tasks before being consumed, including feeding, watering, animal health care, conveying, and marketing (Little, 1995). The meat value chain is facing several issues, and wastage of meat and meat products due to improper processing is the leading issue. Edible food items, especially meat, are also prone to chemical deterioration and microbial infestation causing major threats to consumer health. The losses may be greater in those areas and countries having weaker processing and sanitary control facilities. However, because of the difference in the regularity of supply and the cost of processing, the interdependence between producers and processers varies between the market-oriented and more traditional sub-sectors.

In Sub-Saharan Africa, most agriculture value chain actors conclude either oral or written agreements that can be conceptualised as institutions. These institutions are commonly considered as key determinants for economic progress (Acemoglu *et al*., 2001: Rodrik *et al*., 2004: Kerekes and Williamson, 2008: Williamson, 2010). Various multidisciplinary theoretical corpuses provide a conceptual framework for these institutions and, in economics, transaction cost theory, related to the seminal work of Coase (1937) and to some extent that of Williamson (1979, 1985), helps in analysing the interactions between different actors along a chain.

In agricultural value chains, particularly in Sub-Saharan Africa, pure market coordination does not operate and interpersonal relations have remained important. Value chain actors build what can be referred to as hybrid coordination relations that require a climate of trust (Tiotsop *et al*., 2014) as well as co-accepted mechanisms for conflict regulation and cooperative structures (Udangiu, 2017). To meet expectations of improving the quality and safety of farmers' produce, there is a need to reinforce both vertical and horizontal coordination among the multiple agents who interact to manage beef value chain governance. While the concept of vertical coordination is used to refer to synchronizing vertical stages of the food value-chain through various actors including pricing, markets and all the factors that involve relationships,

horizontal coordination is about the different mechanisms developed between actors in the same value chain node (administrative activities, producer organizations).

The actions of some actors are decisive for the functioning and performance of value chains, as well as for the type of governance in play (Challies and Murray, 2011; Altenburg, 2006). These interactions can generate inequalities of position and even exclusion (Kaplinsky and Morris, 2001), so that to act on them, it is necessary to identify the mechanisms through which power relations are established. Thus, Ponte and Gibbon (2005) define the governance of value chains as "a process of organizing activities in order to achieve a certain functional division of labour along the chain, resulting in specific allocations of resources and distributions of gains", while for Bolwig *et al*., (2010), it is a means for certain actors "to exercise control along the chain by specifying what kind of product should be supplied, by whom, in what quantity and when, how it should be produced and at what price".

Therefore, the governance mode implies critical mechanisms (Gibbon *et al*., 2008; Ponte & Gibbon, 2005; Widadie *et al*., 2022), rules (Keane, 2012; Mohan, 2016), conventions and institutions (Bolwig *et al*., 2010). To identify the dominant actors and understand better the position of smallholders, Minh and Osei-Amponsah (2021) provided four guiding questions 1) How the quality is defined, measured, and transmitted between the value chain actors so that to influence product prices, certificates, and standards? 2) How transactions between value chain actors are made (vertical coordination)? 3) What are the ways of coordinating and organizing value chain actors and collective actions in the same segment (horizontal coordination)? 4) How far is vertical and horizontal coordination integrated along value chains? These questions guide the analysis of the two value chains in Section 6 below.

Analytical Framework

This analysis attempts to go beyond the VCA4D methodology, by shedding light on how various sub-VCs perform differently for income distribution and how VC governance may influence the setting of prices and revenues at the different stages. Contracts, organizations, policy measures, and regulations, taxes, or subsidies are among the ways and means that enable or limit the stakeholders' bargaining position. VC governance has been treated quite briefly in the two VCA4D reports used here, and as far as we can see in other VCA4D reports. The AFA software that supports governance analysis focuses more on qualifying relationships described as collaborative, contractual, hierarchical, and market-driven. However, the reports need to talk more about the power relationships that a more in-depth governance analysis could substantiate. This would allow for a better understanding of specific indicators, such as inequalities in income distribution and earnings along value chains. For these reasons, reconsidering the pioneering works of Gereffi *et al*. (2005) characterizing global value chains would help to deepen governance analysis. Gereffi *et al*., (2005) have set out the five types of ways through which actors establish and structure value chains: 1) *market linkages* governed by exchanged volumes and prices; 2) *modular linkages* through which suppliers with specific skills manufacture products in a demand-driven context; 3) *relational linkages*, where explicit and implicit information is exchanged between buyers and suppliers with unique or at least difficult-to-replicate capabilities, governed by trust and reputation; 4) *captive linkages*, where small-scale suppliers depend on detailed instructions provided by highly dominant buyers; and 5) *hierarchy linkages*, governed by management hierarchy conducted by actors which have a dominant type of governance. These five types of linkages are differentiated by three attributes: the *complexity of knowledge and information* exchanged to sustain transactions; the *codifiability of that knowledge and information*; and the *capabilities* of the suppliers (see Table 1). The analysis below explores the value chains in Zimbabwe and Eswatini in terms of these concepts, in particular market and hierarchy linkages.

Table 1: Key determinants of the different types of value chain governance

Types of linkages	Complexity of transactions	Codifiability of transactions*	Capabilities in the supplier node	Degree of explicit coordination** and power asymmetries***
Market	Low	High	High	Low
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	High

(*) *The extent to which information and knowledge can be codified and transmitted efficiently without transaction-specific investment between the parties to the transaction*
(**) *Non-market forms of coordination of economic activity*
(***) *Control exerted directly by lead firms on suppliers*
Source: elaborated from Gereffi *et al., 2005: Altenburg, 2006; Ponte and Sturgeon, 2014;* Padilla and Oddone, 2017.

The Political Economy of Land in Zimbabwe and Eswatini

The agrarian structures of both countries are indelibly marked by the legacy of settler colonialism under the British Empire. Land was expropriated by white settlers, and farming by Africans was confined to overcrowded native reserves (with different terminology in different countries and at different times) generally established in areas of lower agricultural potential, and with land allocated through some modified form of traditional tenure. In this way, not only was a white settler class privileged, but also pressure was created for out-migration of African men to work for low wages in mines, on settler farms and in other white-owned enterprises, while the costs of reproducing that labour force – ensuring the subsistence of women, children and older men – were met through low-input, low-productivity agriculture.

This process played out differently in the two countries under consideration. Zimbabwe[4] was occupied by the British South Africa Company in 1890 and the process of granting land to white settlers and establishing reserves for the African population started almost immediately (de Satgé, 2020).[5] Under the Land Apportionment Act of 1930, 51% of the land, mostly in higher-potential areas, was allocated to around 3000 white farmers. 30% of the land, generally of lower-potential and much of it with extremely low rainfall, was established as native reserves for 1.2 million Africans, with the intention of moving all Africans into these areas within six years. On these reserves, government-approved chiefs were given wide-ranging powers, including over land allocation. Very small “Native Purchase Areas” (later referred to as Small-Scale Commercial Farming Areas) were established where wealthier Africans could buy land with freehold title. This situation essentially continued, with both further expropriation of African land and some apparent concessions, until independence in 1980. In parallel there was increased, and largely ill-informed, government interference in African agriculture with increased individuation of land tenure, especially in grazing areas, and attempts to limit the

[4] Known successively as Southern Rhodesia, Rhodesia and Zimbabwe-Rhodesia before taking the name Zimbabwe on independence in 1980: Zimbabwe is used for simplicity.
[5] These two paragraphs draw heavily on De Satgé’s extremely useful summary, from multiple sources, of the history of land tenure in Zimbabwe, and on Scoones et al. (2011).

number of livestock owned. These land issues were central factors behind the Zimbabwean War of Liberation (1964-1979).

By the eve of independence in 1980 around 15 million ha, 38% of the total land area, was owned by around 6000, almost exclusively white, commercial farmers, and 16.4 million ha, or 42% was designated as Tribal Trust Lands (the new name for native reserves, in turn to be rechristened Communal Areas) for somewhere between 700,000 and 1 million members of black farming households. At independence a land reform programme was set in operation, which by the terms of the Lancaster House Agreement on independence was carried out by acquisition of commercial farmland for African farmers on a Willing Seller, Willing Buyer basis, using international donor funds. There was a failure of political will on all sides to implement this programme: eventually around 3 million ha was bought and redistributed to 70,000 African farm households. Between 1997 and 2000, a movement by war veterans, or those claiming that status, to occupy white-owned commercial farms was co-opted by government and transformed into the Fast-Track Land Reform (FTLR) programme, involving large-scale seizures of commercial farms. Farmland was allocated to smallholders (the A1 model) or to commercial production (the A2 model – rarely on the scale of the former commercial farms). FTLR attracted widespread international criticism for brutality against the previous owners and their farmworkers, for corrupt allocation to elites associated with the ruling party, and for disruption of successful farming operations. However, researchers have also identified significant benefits to smallholders, particularly in the more semi-arid regions of the country (Scoones *et al*., 2010). Estimates differ but De Satgé (2020) cites figures of 12.3 million ha of land having been transferred to 203,000 small-scale farmers and 30,000 black commercial farmers.

The history of Eswatini (known in English until 2018 as Swaziland) shows variations on the theme of white settler expropriation of land.[6] Eswatini was exposed to contact with Europeans (both British and Afrikaner) from the 1840s, with the rival European groups exacting land concessions amounting to almost the entire kingdom from successive Swazi kings and attempting to increase their formal and informal dominance over the kingdom. In the first decade of the 20th century, Swaziland became a “British High Commission Territory” or *de facto* protectorate. Protectorate status allowed some return of conceded land to use by Swazi smallholders, one-third of each concession, amounting to 38% of the country’s area.[7] As the long-reigning King Sobhuza II increased his standing vis-à-vis the British, the Swazi government was able to buy land from European settlers and demarcate its own Crown land for smallholder use, so the figure increased to 51.5% by 1959. After Independence in 1968, Sobhuza further modified land tenure by reserving to government the right to scrutinise any land transaction involving non-Swazi, “to achieve maximum Swazi participation without alienating foreign investors and genuine expatriate farmers who were seen to have a continuing role to play in the country’s development” (Kuper, 1986: 117). This resulted both in the increased ability of the Swazi middle class to buy land under title deeds, and the purchase of previously commercial land for smallholder settlement, using funds from the British government and from mineral royalties. These developments have led to the current system, whereby the Swazi Nation Land (SNL) accounts for 60% of national land, Title Deed Land (TDL) for 39% and Crown land for 1%. TDL is held on virtually freehold terms by local companies and Swazi individuals, including Eswatini nationals of European origin. Individual foreign nationals, and companies without majority Swazi ownership, can acquire land subject to approval from the Land Control Board. In the SNL, land allocation for crop cultivation or residential plots is made by local chiefs (who are appointed by the king). Land for grazing is

[6] This section draws heavily on Kuper (1986).
[7] Great Britain Colonial Office (1962))

open-access for the cattle of all ethnic Swazi, though in practice cattle are generally herded within the area of one Chiefdom (there are 392 in the country) and the obligation to register cattle with a dip-tank and dip them weekly also keeps movements of cattle for grazing relatively short-distance. In general, the dual land tenure system does not appear to be a particularly live political issue, even though there is a widespread feeling that the SNL is overcrowded.

The legacy of settler colonialism and dualistic land tenure continues to have implications for the beef value chains. In Zimbabwe, FTLR has partially broken down the old dualistic agrarian structure, but its legacy is still felt. The VCA4D study adopts a model of three farming systems, where commercial orientation correlates, but not in a straightforward way, with farm size and tenure security:

- Fully Communal (the Communal Areas);
- Partially Communal/Commercial (post-1980 resettlement, FTLR A1, and smaller FTLR A2 farms);
- Fully Commercial (the old Small-Scale Commercial Farming Areas, larger FTLR A2 farms and the remaining commercial farms).

These farming systems are differentiated by the market destinations of the cattle they produce, but this is a matter of degree rather than a sharp divide, as Table 2 shows. The practice of gifting and own consumption, and use of rural butchers declines with the degree of commercial orientation, while use of abattoirs increases.

Table 2: Destinations of cattle in Zimbabwe by farming system (%)

Destination	Fully Communal	Partially Commercial/ Communal	Fully Commercial
Gift/own consumption/other farmers in the same category	30	20	10
Rural butcher	20	5	0
Trader/middleman	10	20	0
Auction	20	10	45
Abattoir	15	40	45
Partially communal farmer	5	0	0
Fully commercial farmer	0	5	0

Source: adapted from Bennett *et al.* (2019)

The legacy of dualistic land tenure in Zimbabwe also has implications for any potential measures to restore controls of Foot and Mouth Disease (FMD). FMD controls in the form of fences had previously been in place to keep commercial farming areas free of FMD and thus assure the exportability of their beef. Those controls broke down in the 2000s leading to a cessation of exports. The VCA4D study notes: “There is a strong risk that investments in the restoration of a FMD fence will be made without taking into account the "new" land use and users (compared to the period before the land reform). It could contribute to restore a dualistic animal farming system with limited inclusiveness” (Bennett *et al*., 2019: 17-18).

Because the whole of Eswatini is regarded as FMD-free, there are both international and domestic end-markets for beef. In general, beef from ranches on the TDL finds its way through feedlots and export-oriented abattoirs into international markets, while beef from the SNL Is slaughtered locally or sold (at sales yards and auctions) for consumption within the country. However, there is also transfer of live animals from SNL farmers to TDL farmers, to feedlots, and to government ranches, from where they are slaughtered for export.

In both countries, areas designated for smallholders (the Communal Areas in Zimbabwe, the SNL in Eswatini) remain overcrowded and suffer from problems of land governance, that can be partially attributed to their status as a residual and ignored land tenure category. In Zimbabwe, access to grazing is a major concern for communal area farmers, exacerbated by the fact that many used to practice "poach grazing" on commercial farms that have now been distributed as A1 farms (for which the new owners are unlikely to invest in fencing), leading to conflicts between communal area and A1 farmers. The communal areas also suffer from an under-developed and underfunded extension service, despite the best efforts to develop services in the 1980s and 1990s. In Eswatini, grazing areas within the SNL suffer from a general decline in grazing availability and gullying and point erosion on tracks and around dip-tanks (Orchard *et al*., 2017). Some outside observers attribute this in the abstract to the open-access system. We have seen this is in practice largely restricted to cattle-owners resident and registered in the close neighbourhood, but it is the case that large cattle-owners have equal rights to graze, possibly at the expense of poorer households. However, both Orchard *et al*. (2017) and the VCA4D study noted a separate explanation for the shrinkage of grazing areas. There is increasing allocation on the SNL of plots for homesteads (family homes and usufruct rights to crop around them), both from natural population increase and urban-rural migration caused by high property taxes in the towns.[8] Many smallholders see this as the biggest threat to availability of grazing.

To sum up this section, the legacies of settler colonialism still impact beef value chains (and livestock production more generally) in both countries, but in different ways. In Zimbabwe, the brutal history of settler land seizures and evictions, the War of Liberation, and eventually FTLR, have led to a complex mapping of land tenure categories onto production systems and a relative confluence of value chains downstream of those production systems. Poor governance has led to a breakdown of former modes of FMD control based on dualist land tenure, which would now be difficult to restore without heavy social costs. In Eswatini, the more subtle power dynamics between King Sobhuza, the settlers and the British authorities in Cape Town resulted in a higher proportion of land reserved for African smallholders, less saliency of land as a political issue, but paradoxically a higher (though not complete) separation of value chains, with smallholders less likely to supply cattle to the country's export markets, despite Eswatini's historic and continuous status as FMD-free.

The Role of Cattle in Southern African Smallholder Production Systems

It is well-established that small-scale livestock producers in developing countries keep livestock for multiple reasons and obtain multiple benefits from them (Kitalyi *et al*., 2005). These benefits include social and cultural benefits, and this has long been noted as particularly true of cattle in Southern Africa. Kuper wrote in the early 1960s: "cattle, in addition to their direct value as a source of food and clothing, serve as potent symbols in a wide range of situations, both economic and ritual". She adds, writing of "the conservative Swazi": "they are [his] closest approximation to currency, his highest reward for service, his means of ratifying marriage, the medium for propitiating ancestors and essential requirements for health and prosperity…a man without cattle is therefore considered poor and insignificant" (1986: 44). Similar descriptions could be found for the traditional views of Bantu-speaking people throughout Southern Africa. Obviously, what was true of "the conservative Swazi" in the 1960s is not necessarily going to be true now of either Swazis or Zimbabweans. But it is important to investigate the extent to which cattle in smallholder production systems remain multi-functional

[8] Given the small size of Eswatini, such migration does not need to be over long distances.

and endowed with non-economic values, and to what extent and in what ways this has an impact on beef value chains.

The Zimbabwe VCA4D study sets out the main functions of cattle:

- Draft animal power, cattle being the main source of farm power for Communal Area farmers and still significant on farms under other forms of tenure, although donkeys are also used for ploughing on lighter soils and for operations other than ploughing, and households without cattle can access ploughing services through hire, payment in kind, or kinship claims;
- Social and religious life, most notably the payment of lobola or bridewealth, but also slaughter during life-cycle rituals;
- Saving, with the study noting the deficiencies of the banking and credit system, and the ability of households to sell cattle to meet expected (school fees) and unexpected (food purchase during drought) cash needs;
- Manure as fertiliser, milk for household consumption, meat for consumption (mainly for family events or for important visitors;
- Income: for Communal Area farmers selling cattle is not a regular source of income, but happens in time of need (including at the start of the school year. There is some selling of surplus milk, and also hiring of ploughing and transport services.

The Zimbabwe study also cites figures from Muvirmi and Ellis Jones (1999) suggesting that 64% of the economic value of Communal Area cattle comes from draft power.

In Eswatini, insight into the multiple objectives of cattle keeping was given by focus groups, who were asked to rank the objectives, represented by cards with simple drawings and the appropriate siSwati term. The results in Table 3 show great variation between the geographical regions of the small country, and between the rankings of men and women. These variations can be regarded as part of the findings – the relative rankings of different production objectives are highly subject to farming system, income opportunities, gender and individual preferences. Money, in other words cash income, ranks highly with both genders in the peri-urban highveld, and with men in three of the other four locations. Traditional reasons including security (psychological and financial), bridewealth and payments to traditional authorities, rank relatively high, especially with men. Ploughing ranks high with both genders (slightly higher for women), especially in the Middleveld. Manure is ranked more highly by women than by men across all five locations: given the low volumes relative to cropped area, and the difficulties of transportation, there is a strong suggestion that manure use as natural fertiliser is concentrated on home vegetable gardens, contributes to dietary diversity and the nutrition of children, and is this especially valued by women. Own consumption of meat and milk is not insignificant, more so with women than with men.

Table 3: Ranking of outputs/production objectives in Eswatini, using pictorial cards, from VCA4D study focus groups, 2017

Highveld Peri-Urban		Middleveld		Plateau		Lowveld	Highveld Rural		
Men	Women	Men	Women	Men	Women	Men	Young Men	Older Men	Women
Money[a]	Money	Bridewealth	Ploughing	Money	Security/ wealth[b]	Money	Money	Wealth/ security	Ploughing
Security	Milk	Ploughing	Manure	Security/ wealth	Money	Security/ wealth	Bridewealth	Money	Manure
Cultural reasons	Meat	Manure	Milk	Meat	Milk	Meat	Cultural reasons	Bridewealth	Money
Bridewealth	Ploughing	Rituals and fines	Money	Milk	Meat	Bridewealth	Ploughing	Ploughing	Milk
Ploughing	Manure	Milk	Rituals and fines	Bridewealth	Cultural reasons[c]	Ploughing	Manure	Cultural reasons	Bridewealth
Milk	Security	Meat	Bridewealth	Manure	Manure	Milk	Meat	Milk	Wealth/ security
Manure	Skins	Money	Security	Ploughing	Ploughing	Cultural reasons	Milk	Meat	Cultural reasons
Meat	Cultural reasons	Security	Meat	Cultural reasons	Bridewealth	Manure	Wealth/ security	Manure	Meat
Skins	Bridewealth	Skins	Skins	Skins	Skins	Skins	Skins	Skins	Skins

Source: Wane *et al*., 2019. Notes: a) “Money” interpreted as cash income throughout b) “Security/Wealth” or vice versa interpreted as meaning both a store of wealth and psychological security c) “Cultural reasons” interpreted to include court fees paid in kind, and traditional “gifts” to chiefs in return for allocation of land.

There is evidence that these preferences are changing strongly over time. Orchard *et al*. (2017), comparing two Middleveld locations, tracked responses on reasons for keeping cattle (multiple responses allowed, unranked) between 2002 and 2014. There was a very strong increase in the proportion of farmers mentioning manure (+51% in one location, +41% in the other) and, perhaps surprisingly, in those mentioning "tradition" (+14% in one location, +54% in the other). Trends in the use of cattle for draught power are ambiguous, with a change of +8% in one location, -24% in the other (other data cited in the VCA4D study suggest that 40% of homesteads use oxen, but not necessarily their own oxen, for ploughing). Orchard *et al*. (2017) record small decreases in the use of cattle as "bank" between 2002 and 2014, larger decreases in the use of cattle as food (-43% in one location, -21% in the other). Figures from the Swaziland Vulnerability Assessment Committee, cited in the VCA4D study, show the percentage of livestock products in the household diets of the "better-off" ranging between 6% and 21% according to zone, lower in poorer groups and 0% for the "very poor".

The multifunctionality and cultural values of cattle does not necessarily mean that all or a large majority of farmers own them. In Zimbabwe, FAO estimate that "up to 60%" of rural households own cattle",[9] while the Zimbabwe Smallholder Agricultural Productivity Survey of 2017[10] gives figures of 49.8% in the Communal Areas, 52.7% on Small-Scale Commercial Farms, 54.6% on A1 farms and 62.4% in post-1980 resettlement areas. In Eswatini, finding a comparable figure is surprisingly difficult, but the VCA4D study concludes that between 40% and 50% of rural homesteads own cattle, with considerable regional variations.[11]

In both countries there has been a strong association of indigenous cattle breeds with the small-scale livestock producers, while commercial livestock producers concentrate on exotic beef breeds. This distinction reflects the difference between the multifunctionality of cattle in the communal areas and the single-output orientation of commercial enterprises. Indigenous breeds are in many cases more resistant to disease, particularly tick-borne disease, and to drought than exotics, and this is easier for small-scale producers who have worse access to veterinary services and emergency feed resources. However, the distinction is neither absolute nor unchanging. In Zimbabwe, fully commercial farmers keep exotic breeds such as Limousins, Brahmans and Angus, but also a standardised version of the indigenous Tuli breed. Communal area farmers keep indigenous breeds such as Mashona, Tuli and Nguni, but may engage occasionally in crossbreeding with exotic breeds, both beef and dairy. Following the changes in land tenure and the collapse of the export trade, there has been a relative switch back towards indigenous breeds, which has led to problems as grading systems at abattoirs are more adapted to exotics, leading to mistrust of abattoirs among small-scale producers. The VCA4D report for Eswatini says less about breed, but a similar distinction seems to apply, and there are similar exceptions as some producers on the SNL purchase breeding bulls from commercial or government farms.

To sum up, cattle in Zimbabwe and Eswatini retain considerable cultural value, though in both countries it is important to note that only around half of smallholder households own cattle at all. Even more importantly for present purposes cattle have multiple use-values, most notably in Zimbabwe, but also in Eswatini, as farm power, and in Eswatini as a source of manure. These factors are likely to be contributing to holding down off-take rates, especially for male animals in Zimbabwe. In the cases where cattle are sold for cash, this is likely to be in response

[9] https://www.fao.org/zimbabwe/fao-in-zimbabwe/zimbabwe-at-a-glance/es/

[101010] http://www.zimstat.co.zw/wp-content/uploads/publications/Economic/Agriculture/APM/APM-2017-Report.pdf

[11] A homestead is a group of one or more households under the authority of one man (or in some cases one woman) and may include the households of several wives if polygamy is practiced, or the households of adult sons, or both. As more than one household within a homestead may be cattle-owning, the 40%-50% estimate may also be valid for households. Orchard et al. (2017) give a figure of 47% for Middleveld SNL households owning cattle.

to specific needs, with school fees due at the beginning of the year mentioned in both countries – a seasonality that may well conflict with the demands of market actors.

Governance of the Value Chains: Findings

Although the reach of beef value chains is not the same in Zimbabwe (a nationwide value chain) and Eswatini (a global value chain with exports to Europe), there are many similarities between the two countries. In each, the cattle sub-sector remains characterized by a dualism as a value chain with little formal coordination coexists with another with increasingly explicit coordination driven by dominant actors with clearly established competitive strategies. Taking this dual economy into account requires distinguishing between two types of markets: a domestic market, in which fully communal and partially communal small-holders bring live cattle to meet their consumption needs rather than the intrinsic expectations of consumers, and a dynamic commercial market in which market-oriented producers (including partially communal small-holders) and exporting actors are very sensitive to the specification standards set by large local abattoirs, distributors or foreign countries.

In Zimbabwe and Eswatini, two modes of coordination clearly emerge: market-based coordination, which can in turn be disaggregated into spot markets in communal areas and formal domestic markets, and hierarchical coordination. These elements lead us to revisit the framework proposed by Gereffi *et al*., (2005) (see Table 1) to adapt it to the specific case of cattle-meat value chains in Southern Africa. In the spot markets of communal areas, there is a low level of coordination as both complexity and codifiability are relatively low. The capabilities in the supplier node are high since small holders can manage prices since they are in a situation where all cattle presented on the markets are likely to be easily sold. These markets are even less coordinated than the “market” mode in Gereffi’s schema as codifiability of transactions is lower. The more these small holders are involved in formal domestic markets, the less they have real power to influence the market prices while being called to respect increasing specifications and standards from the buyers. This might be seen to place the formal domestic markets in Gereffi’s “captive” mode, but this terminology would seem to have limited utility in these cases. In the Eswatini export market, in which product specifications are very difficult to codify and products are so complex that it may be difficult or impossible to find highly competent suppliers, it is possible to speak of hierarchical co-ordination in Gereffi’s schema.

The analysis of the governance of cattle-beef value chains is deepened by integrating various dimensions related to product quality, price, dominant actor resource allocation and support, food safety requirements (vertical coordination), involvement of professional organizations (horizontal coordination) as partly stipulated by Widadie *et al*., (2022). These dimensions are detailed in Annex 1.

Table 4: Determinants of the different types of value chain governance in Zimbabwe and Eswatini

Form of coordination	Strict market-based		Hierarchy
Countries	Zimbabwe		
	Eswatini		
Types of markets	**Reputation-based spot market in communal areas**	**Reputation-based domestic market**	**Export Market**
Complexity of transactions	*Low*	*High*	*High*
Codifiability of transactions	*Low*	*High*	*Low*
Capabilities in the supplier node	*High*	*Low*	*Low*
Degree of explicit coordination and power asymmetries			

Sources: framework elaborated from Gereffi *et al*., 2005: Altenburg, 2006; Ponte and Sturgeon, 2014; Padilla and Oddone, 2017. Ratings synthesised from the respective VCA4D studies.

Vertical Coordination

In Zimbabwe and Eswatini meat procurement is characterized by segments distinguished by their governance mechanisms.

In both countries, there is a circuit more traditionally established and consisting mainly of sourcing meat from locally produced cattle and serving to supply various marketing channels ranging from the butcher's market and retailers in direct contact with much of the local demand for cattle and meat. There are spot market transactions between small-holder producers and multiple collectors of cattle based near their homes and fields. The coordination is primarily based on trust, reputation, and the price mechanisms. In this market segment, which is rather tight since it is estimated that small producers do not put enough animals on sale, rural collectors tend to take everything that is presented without any quality or safety standards. In this situation, the small-scale communal farmers who are fully or partially market-oriented are more likely to be price-makers, especially since they receive no technical or financial support and assistance from the rural collectors.

Again in both countries, there is a segment oriented exclusively towards the domestic market with actors contracting with slaughterhouses and butchers that are more or less organized, and that expect a certain level of quality and safety that varies according to whether the meat is sold in the dominant circuit of market butchers who resell in bulk or whether the meat is destined for distributors targeting a relatively richer clientele that buys differentiated butchery products. The concepts of trust and reputation also exist here. Main buyers elaborate quality arrangements based on the visible aspects of the animals (shape, conformation, size, apparent or real weight). The farmers should meet the intrinsic quality requirements monitored by the buyers (traders, wholesalers) before delivered cattle to abattoirs, butchers, and retailers which also recommend certain quality and safety standards for meat. The level of financial and technical assistance or farming inputs varies depending to the importance of the buyers. Some support is obtained through bilateral or multilateral donors helping to improve meat

value chains for food security and nutrition purposes. In this segment, most farmers are price-takers.

A third segment is only visible in Eswatini since the ending of exports in Zimbabwe, with a dominant distributor - Swazi Meat Industries (SMI) - who, in addition to a market differentiation at the domestic level, benefits from a license to export meat products to Europe in return for scrupulous respect of sustainable specifications. Quality and sanitary standards are set and controlled by both the buyers of the products and, in the case of Eswatini, by the exporting countries that set up specifications beyond financial dimensions as they try to raise awareness on social and environmental dimensions. However, the way this segment is governed on the ground in Eswatini is also characterised by a web of informal relations between government actors and domestic and foreign business, and the rent capture described by Bennett and Rich (2019) for Botswana and Namibia can equally be said to apply to Eswatini.

Horizontal coordination

Horizontal linkages are the connections between farmers and those who participate in cooperatives or professional organizations. Through horizontal coordination, value chain actors attempt to improving their access to and management of information, their knowledge of multilevel markets, their control over contracts and their cooperation with other value chain actors. In both Eswatini and Zimbabwe, some various professional organizations and cooperatives try to provide technical and economic assistance to their members, to represent their interests and to impact the local development. However, they seem to be limited in terms of human and financial resources, given their ambitions, in the flexibility and transparency of their procedures, in their inclusiveness, and in their representativeness as well. Finally, their negotiation power still remains very weak when it comes to fully representing smallholders.

Risks and their Management

The two VCA4D studies identified several significant risks affecting the beef value chains in the two countries. These risks should not obscure the benefits of beef production (particularly by smallholders): not only the direct contribution to farm incomes but also benefits through the multifunctionality of cattle production; land preparation, improved nutrition through milk, and environmental impacts through use of manure as a fertiliser. But risks are important, and can be classified as to how external they are to the value chains, and how much they are within the capacity of value chain actors to manage.

Risks external to the value chains

The Zimbabwe study identifies risks of inflationary pressure, both internally generated through poor domestic economic policies and externally driven by global pressures on the cost of, for example, energy. There is a continuing risk of declining infrastructure, both specific to the value chain (abattoirs, markets, testing labs) and generic for the rural economy (roads).

In both countries rent capture by elites is a continuing risk, particularly where there are close informal linkages between political elites and private-sector actors with a governing role in value chains. This partially relates to the power asymmetries inherent in the hierarchical mode of value chain governance, but also to issues of transparency, political culture and governance at the national level.

Risks to be managed through vertical integration and proactive government policies

Environmental risks, in particular risks relating to climate change, are also highlighted. In Zimbabwe, the VCA4D study links climate change both to declining cattle ownership in communal areas (especially as indicated by the number of households with more than 5 head of cattle) causing an increase in vulnerability, and in both countries it is linked to price volatility with the potential for over-supply (during droughts) and under-supply of cattle to the market. In both countries, governments could take at least some steps to manage these, in collaboration with value chain actors, but these have not so far been adequate. Such measures as identified in the two studies, particularly for Eswatini, would include widely discussed measures such as development of index-based weather insurance for livestock owners, better communication of seasonal weather forecasts to livestock-owners, more participatory extension models to build adaptive capacity. Development of options for large-scale emergency purchase of livestock during drought onset would also be possible but would require consideration of the degree of subsidy acceptable and options for disposing of meat through export, canning or free distribution to the drought-affected. All these are measures where larger private-sector actors should have an incentive to act in partnership with government and with small value-chain actors.

In Eswatini, risks of overgrazing are attributed (as discussed above) to encroachment on grazing lands by homesteads. Managing this risk involves much more integrated land planning by government, including removal of perverse incentives for urban dwellers to claim rural land.

There are major risks identified in both countries relating to animal health: the risks of outbreaks of various diseases that would cause mortality and loss of productivity in the cattle population, but also possible risks to human health. In the case of Eswatini the risk that an FMD outbreak might endanger the country's export quota to Europe was in fact realised in the years since the VCA4D report. Animal health risks stem from the failure of disease control institutions, and require management at different levels: local and community levels for delivering frontline care and prevention, national levels for surveillance and negotiation of international agreements around the acceptability of meat for export. Again, larger private-sector actors should be expected to participate in such measures.

Risks to be managed through better horizontal integration (with government support)

Risks were identified of rural youth drifting away from cattle production (in Eswatini especially), of the relative exclusion of women from the value chain worsening, and more generally of low levels of farmer organisation and trust causing missed opportunities for improving productivity, efficiency, and equity. These are risks that should be managed at community level by smallholder livestock-keepers and other community members and by government with donor support.

Conclusions and Policy Recommendations

This study has presented an analysis of value chain governance in the beef value chains of Zimbabwe and Eswatini, closely informed by analyses of a) the political economy of land (and agrarian structure more generally) which from common roots has played out differently in the two countries, and b) the underlying multifunctionality and cultural value of cattle for smallholders common to both countries. The governance analysis, grounded in international literature, distinguishes three value chain segments (two applicable to Zimbabwe, all three to Eswatini), each with a distinctive mode of governance. The distinction between the local value chain in the communal areas/SNL and the more formal domestic value chain is driven by the

history of those areas as residual zones not appropriated by settlers, and thus under-resourced in many other respects, and by the multiple economic and cultural functions of cattle in the smallholder systems. The demise of an export value chain in Zimbabwe and its survival in Eswatini (during the time of the VCA4D study and until 2022) can be attributed partially to the different ways the heritage of settler colonialism was managed in the two countries, producing a crisis of governance in Zimbabwe.

Zimbabwe's experience of a protracted and chaotic period of land reform has significantly altered the economic landscape for beef production. Reduced access to international markets due to failure to comply with international animal health requirements has led to a structural change to the market for beef, from a focus on commercial production and breeds for large scale processing and export, to adoption of traditional, smaller breeds with greater immediate multifunctionality to small holders but less productivity, and to more informal and uncertain marketing arrangements. Opportunities for dramatic improvements in productivity associated with widespread adoption of improved traditional breeds have emerged from the land reform process, but absence of infrastructure and suitable international markets for surplus production mean that supply and demand are not in balance. With agriculture contributing 18.5% of GDP and 66% of employment, livestock is clearly seen as central to economic growth and the Government of Zimbabwe has plans to seek investment to allow access to markets. Policy makers face a paradox. Formulating policy that recognises the reality that most beef production in Zimbabwe is now traditional and therefore multifunctional is to some extent in conflict with the strict controls necessary to meeting international animal health standards for high value export.

In Eswatini, a less challenging political environment allowed the continuation of beef exports until very recently. The total value added created by the beef value chain at the time of the VCA4D report represented about 2% of GDP (1.2% direct contribution and 0.8% indirect contribution) and 32% of agricultural GDP (19% direct contribution and 13% indirect contribution in the form of wage payments, payment of taxes, etc.). Through taxes and once state subsidies are considered (mainly on veterinary medicines provided to small-scale livestock farmers), the beef value chain positively impacts public finances. It contributes negatively to the trade balance due to massive meat imports from South Africa and Mozambique to meet growing local demand. Thus, promoting exports has benefits in terms of improving the balance of payments and bringing products up to sanitary standards to meet demand in the European market. However, targeting higher-quality products for export while massively producing and importing lower-quality products for the domestic market raises a question of nutrition equity and sustainability, especially in a changing environment where shocks (e.g., climate, health) can challenge existing supply chains. The VCA4D report made recommendations for measures within the overall structure of domestic and export value chains: improvement in the evidence base and knowledge sharing with stakeholders, establishment of a value chain forum, better drought management, improved technologies, and dissemination of best practice.

In both Zimbabwe and Eswatini the changing landscape of global meat markets is impacting on local consumption patterns and livelihoods, and this has implications for support to beef production. There is a need for donors to invest alongside governments in infrastructure (abattoirs, markets, testing labs and roads) and to give tailored support to small producers. There needs to be greater protection of consumers through food safety measures applied both to domestically produced meat and to imports (e.g., of poultry products). For production and export of beef, there is a need for more pragmatic and locally-based solutions to promote other policy objectives such as small producer inclusion, environmental management, climate-change resilience and higher productivity. The EU as an export market of great actual or

potential significance can not only consider the above interventions but also well-formulated trade policies. Interventions that support innovations and encourage their commercial acceptance (e.g., risk-based food safety or 'commodity based trade' that can circumvent the need for certifying countries or regions within them as disease-free) should be tested, particularly now knowledge of these approaches is becoming widespread (SADC, AHEAD, 2021, Thomson *et al*., 2013). However, testing and gaining acceptance for some of these interventions, particularly commodity-based trade, will require long-term support beyond typical project horizons.

The findings of this synthesis may also have some implications for the implementation of the VCA4D methodology. There is an implicit assumption in the methodology that the value chains are formed around relatively straightforward commodities that can be sold, eaten or drunk (or in the case of cotton made into garments). However, livestock, as shown above, have multiple uses and values, including cultural values that cannot easily be quantified economically. The uniquely complex landscape of animal disease and its control also needs to be taken into account. The analyses would gain from being more flexible (as the two synthesised here are) in discussing where and how commodities are multi-functional and/or have socio-cultural importance beyond the economic. This multifunctionality can be treated in the social analyses (although it is not explicitly covered by the six questions of the social profile). Also, the importance in the VCA4D methodology of questions of land acquisition by external actors should not crowd out proper consideration of historic inequalities in land tenure, and how the tenure system within the smallholder sector contributes to inequality and environmental risk.

As regards governance analysis, understanding how and when VC actors set, monitor, and enforce rules and standards can help other actors in the chain better integrate and coordinate their activities. Governance is essential for the generation, transfer, and diffusion of knowledge leading to innovation, which enables VC actors to improve their performance and sustain competitive advantage. Governance helps to determine the acquisition of production capability, market access, and income and gain distribution alongside the value chains and leverage for policymakers. Indeed, the analysis of governance should provide a more in-depth analysis of governance going beyond the qualification of relationships as collaborative, hierarchical, contractual, or market-driven to bring more nuance, especially on hybrid forms of coordination.

References

Acemoglu, D., Johnson, S., Robinson, J.A. 2001. The colonial origins of comparative development: an empirical investigation. *American Economic Review,* 91(5): 1369-1401.

Afrol 2022. Swaziland economy suffers as EU bans beef exports. *Afrol News* http://afrol.com/articles/16098 .

Altenburg, T. 2006. Governance Patterns in Value Chains and their Development Impact *European Journal of Development Research* 18(4): 498–521.

Baldwin K.L., Foster K., Jones K. 2011. A stochastic approach to evaluating livestock marketing policy. *African Journal of Agricultural and Resource Economics*, 6(2): 104-17.

Barrett, C.B., Bachke, M.E., Bellemare, M.F., Michelson, H.C., Narayanan, S., Walker, T. F. 2012. Smallholder participation in contract farming: Comparative evidence from five countries. *World Development* 40(4): 715-730.

Behnke, R.H., Scoones, I., Kerven C. (eds.) 1993. *Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas.* Overseas Development Institute, London.

Bennett, B., Rich, K. 2019. Using preferential trade access to promote global development goals: the case of beef and market access to Norway from Namibia and Botswana. *Agrekon*, 58(4): 485-502.

Bennett, B., Chakoma, C., Figué, M, Vigne, M., Katic, P. 2019. Beef Value Chain Analysis in Zimbabwe. Report for the European Union, DG-DEVCO. Value Chain Analysis for Development Project (VCA4D CTR 2016/375-804).

Bhagwati J., Srinivasan T.N. 2002. Trade and poverty in the poor countries. *American Economic Review,* 92(2): 180-183.

Bijman, J. 2008. Contract farming in developing countries: An overview. Working Paper, Wageningen University.

Bolwig, S., Ponte, S., du Toit, A., Riisgaard, L., Halberg, N. 2010. Integrating poverty and environmental concerns into value-chain analysis: A conceptual framework. *Development Policy Review*, 28(2): 173–194.

Bovin M (2000). Pastoralists Maneuvering in the Drought-Ridden Sahel. In: Berner, B., & Trulsson, P. *Maneuvering in an environment of uncertainty. Structural change and social action in Sub-Saharan Africa*. 233-262. Routledge.

Challies, E. R., Murray, W. E. 2011. The interaction of global value chains and rural livelihoods: The case of smallholder raspberry growers in Chile. *Journal of Agrarian Change*, 11(1): 29–59.

Chambers, R. 1990. Editorial Introduction: Vulnerability, coping, and policy. *IDS Bulletin* 20(2): 1-7.

Coase, R.H. 1937. The nature of the firm. *Economica* 4(16): 386–405.

De Satgé, R. 2021. Zimbabwe - Context and Land Governance. Land Portal. https://landportal.org/book/narratives/2021/zimbabue

Dollar, D., Kraay, A. 2004. Trade, growth and poverty. *The Economic Journal*, 114: 22-49.

Enahoro, D., Bahta, S., Mensah, C., Oloo, S, Rich, K. 2021. Current and future trade in livestock products. *Revue scientifique et technique - Office international des epizooties*, 40(2): 2.

European Commission. 2021. Farm to Fork Strategy: For a fair, healthy and environmentally-friendly food system. https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf

European Commission, Directorate-General for International Partnerships. 2023. *EU Support to the Livestock Sector – State of Play 2021*, Publications Office of the European Union, 2023, https://data.europa.eu/doi/10.2841/494946

European Union. 2017. The New European Consensus on Development 'Our World, Our Dignity, Our Future': Joint Statement by the Council and the Representatives of the Governments of the Member States meeting within the Council, the European Parliament and the European Commission. https://international-partnerships.ec.europa.eu/document/download/6134a7a4-3fcf-46c2-b43a-664459e08f51_en?filename=european-consensus-on-development-final-20170626_en.pdf .

Fadiga, M.L. 2013. Valuation of cattle attributes in the Malian humid and sub-humid zones and implications for a sustainable management of endemic ruminant livestock. *Environmental Economics*, 4(1).

Gereffi, G., Humphrey, J., Sturgeon, T. 2005. The governance of global value chains. *Review of International Political Economy*, 12(1): 78-104.

Gibbon, P., Bair, J., Ponte, S. 2008. Governing global value chains: an introduction. *Economy and Society*, 37(3): 315–338.

Great Britain Colonial Office. 1962. *Swaziland: Report for the Year*. London: Her Majesty's Stationery Office.

Halderman, M., Nelson M. 2005. EU Policy-Making: Reform of the CAP and EU Trade in Beef & Dairy with Developing Countries. *PPLIP Working Paper* No. 18. Pro-Poor Livestock Policy Initiative, FAO, Rome.

Henson S., Jaffee, J. 2006. Food safety standards and trade: enhancing competitiveness and avoiding exclusion of developing countries. *European Journal of Development Research*, 18(4): 593-621.

Jaffee, J., Henson, S. 2005. Agro-food exports from developing countries: the challenges posed by standards. In: *Global Agricultural Trade and Developing Countries*, pp 91–114. The World Bank.

Jooste, J., van Schalkwyk, H. 1996. Beef trade preferences and intensities in the Southern African Customs Union, *Agrekon*, 35(3): 123-130.

Kaplinsky, R., Morris, M. 2001. *A Handbook for Value Chain Research*. Brighton, UK: Institute of Development Studies.

Keane, J. A. 2012. The governance of global value chains and the effects of the global financial crisis transmitted to producers in Africa and Asia. *Journal of Development Studies*, 48(6): 783–797.

Kerekes C.B., Williamson C.R. 2008. Unveiling de Soto's Mystery: Property Rights, Capital, and Development, *Journal of Institutional Economics* 4(3): 299-325.

Kitalyi, A., Mtenga, L., Morton, J., McLeod, A., Thornton, P., Dorward, A., Saadullah, M. (2005). Why keep livestock if you are poor. In Owen E., Kitalyi, A., Jayasuriya, N. and Smith, T. (eds.) *Livestock and wealth creation: Improving the husbandry of animals kept by resource-poor people in developing countries,* 13-27. Nottingham University Press, Nottingham.

Kuper, H. 1986 *The Swazi : A South African Kingdom.* Case Studies in Social Anthropology, Holt, Rinehart and Winston.

Little, P. D. (1995). Merchants and middlemen in the cattle trade of southern Somalia. In Jaffee, S. and Morton J. (eds.) *Marketing Africa's High-Value Foods: comparative experiences of an emergent private sector*, 417-456.

Maertens M, Swinnen JFM (2009). Trade, Standards and Poverty: Evidence from Senegal. *World Development* 37(1): 161–178.

Minh T.T., Osei-Amponsah C. 2021. Towards poor-centred value chain for sustainable development: a conceptual framework. *Sustainable Development,* 29:1223–1236.

Mohan, S. 2016. Institutional change in value chains: Evidence from tea in Nepal. *World Development*, 78: 52–65.

Muvirimi F. & Ellis-Jones, J., (1999), A farming systems approach to improving draft animal power in sub-Saharan Africa. In Starkey, P. and Kaumbutho, P. (eds.) *Meeting the Challenge of Animal Traction*. London: Intermediate Technology Publication.

Orchard, S.E., Stringer, L.C., Manyatsi, A.M., 2017. Farmer perceptions and responses to soil degradation in Swaziland. *Land Degradation & Development*, 28(1): 46-56.

Padilla, R, Oddone, N. (2017). *Strengthening value chains: a toolkit*, ECLAC-IFAD 2017, https://repositorio.cepal.org/bitstream/handle/11362/40911/S1700023_en.pdf

Ponte, S., Gibbon, P. 2005. Quality standards, conventions and the governance of global value chains. *Economy and Society*, 34(1): 1–31

Ponte, S., Sturgeon, T. 2014. Explaining governance in global value chains: a modular theory-building effort. *Review of International Political Economy*, 21(1): 195-223.

Rodrik D., Subramanian A., Trebbi F. 2004. Institutions rule: the primacy of institutions over geography and integration in economic development. *Journal of Economic Growth*, 9(2): 131-165.

Royer A., Bijman J., Bitzer V. 2016. Linking smallholder farmers to high quality food chains: appraising institutional arrangements. In *Quality and Innovation in Food Chains: Lessons and Insights from Africa*, Wageningen Academic Publishers, pp 359–381

SADC, AHEAD. 2021. *Guidelines on Commodity-Based Trade Approaches for Managing Foot and Mouth Disease Risk in Beef in the SADC Region*. 4th Edition. Southern African Development Community, Animal & Human Health for the Environment And Development, Gaborone, Botswana & New York, USA.

Scoones, I., Marongwe, N., Mavedzenge, B., Mahenehene, F., Murimbarimba, F., Sukume, C. 2010. *Zimbabwe's Land Reform: Myths and Realities*, James Currey, Woodbridge.

Scoones, I., Marongwe, N., Mavedzenge, B., Murimbarimba, F., Mahenehene, J., Sukume, C. 2011. Zimbabwe's land reform: challenging the myths. *Journal of Peasant Studies*, 38(5): 967-993.

Thomson, G., Penrith, M-L., Atkinson, M., Thalwitzer, S., Mancuso, A., Atkinson, S., Osofsky, S. 2013. International Trade Standards for Commodities and Products Derived from Animals: The Need for a System that Integrates Food Safety and Animal Disease Risk Management. *Transboundary and Emerging Diseases*, 60(6).

Tiotsop F., Guillotreau P., Rouchier J. 2014. Le rôle de la confiance dans les relations d'échange : le cas du marché de poisson de Kribi. *Revue Française de Socio-Économie*, 14 : 189-220.

Udangiu E. 2017. Partnership and trust building. *Sociology and Social Work Review* 1: 35-4

Van Dijk, H. 1997. Risk, agro-pastoral decision making and natural resource management in Fulbe society, central Mali. *Nomadic Peoples* 1(1): 108-133

Wane, A., Boureima, F., Ndlovu, F. Morton, J. 2018. Beef Value Chain Analysis in Eswatini. Report for the European Union, DG-DEVCO. Value Chain Analysis for Development Project (VCA4D CTR 2016/375-804).

Wane, A., Cesaro, J.D., Duteurtre, G., Touré, I., Ndiaye, A., Alary, V., Juanès, X., Ickowicz, A., Ferrari, S., Velasco, G. 2020. The economics of pastoralism in Argentina, Chad and Mongolia. Market participation and multiple livelihood strategies in a shock-prone environment*. FAO Animal Production and Health Paper* No. 182. Rome. FAO & CIRAD co-edition. https://doi.org/10.4060/cb1271en .

Wane, A., Touré I., Ancey, V. .2010. Pastoralisme et recours aux marchés: cas du Sahel sénégalais (Ferlo). *Agricultures*, 19(1).

Widadie F., Bijman J., Trienekens J. 2022. Alignment between vertical and horizontal coordination for food quality and safety in Indonesian vegetable chains. *Agricultural and Food Economics* 10(8).

Williamson O.E. (1979). Transaction cost economics: the governance of contractual relations. *Journal of Law and Economics*. 22 (2): 233–261.

Williamson O.E. (1985). *The Economic Institutions of Capitalism*. New York: The Free Press.

Williamson, O.E. (2010). Transaction cost economics: the natural progression. *American Economic Review*, 100 (3): 673-90.

Biographical Information

John Morton is Professor of Development Anthropology at the Natural Resources Institute, University of Greenwich, where he has worked since 1993. John has a BA from Cambridge in Social Anthropology, and a PhD from Hull for research involving extended fieldwork in North-eastern Sudan. He has lived in Sudan and Pakistan and has worked on research and consultancy in over 20 other countries, mainly in Africa. He has dual research interests in the social, institutional and policy aspects of livestock development, and in the impacts of climate change on the rural poor and their opportunities for adaptation. He has served as the social sector specialist for the VCA4D studies of beef in Eswatini and milk in Burundi.

Natural Resources Institute, University of Greenwich, Central Avenue, Chatham Maritime, Kent ME4 4TB, UK. +44 1634 883064, j.f.morton@gre.ac.uk

Abdrahmane Wane is a development economist. He is ILRI's regional representative for West Africa. He has worked on livestock systems development and value chains of livestock products for the past twenty years. He worked from November 2004 to June 2022 as a senior researcher at CIRAD. He has experience working on livestock economics in many African countries as well as France, Mongolia and Argentina). His main focus is on livestock economics. He is the (co)author of nearly 100 publications. Abdrahmane holds a Ph.D. in economics from the University of Paris 9 – Dauphine (France). He led the VCA4D study of the beef value chain in Eswatini.

Ben Bennett is Professor of International Trade and Marketing Economics at the Natural Resources Institute, University of Greenwich and interim Director of the Institute. Ben is a commodity and value chain economist with over 30 years' experience in more than 40 countries. He has lived in and supported the rural development of Nigeria, the Philippines and Namibia. His research interests are in upgrading value chains for a wide range of tropical products. He led the VCA4D study of the beef value chain in Zimbabwe.

ANNEX 1: Detail of the Value Chain Governance Analysis

	Dimensions	Types of markets	Spot and reputational communal market **(Zimbabwe & Eswatini)**	Formal & reputational domestic market **(Zimbabwe & Eswatini)**	Hierarchy **(Eswatini)**
Vertical coordination mechanisms	Quality arrangements	VC actors	No quality arrangement	Intrinsic quality arrangements	Intrinsic and extrinsic quality arrangements
	Quality monitoring	VC actors	No quality monitoring	Quality monitoring by buyers	Quality monitoring by buyers and others
	Safety requirements	VC actors	No safety standards	Food safety	Food safety
	Price taking or making	Non-market input suppliers	In principle, not involved in market price variations		
		Market input suppliers	Price-maker		
		Communal producers	Price-maker	Price-taker	
		Market-oriented producer	Price-maker	Price-taker	
		Intermediaries	Price-maker		
		Processors	Price-taker	Price-maker	
		Wholesalers	Price-maker		
		Retailers	Price-maker		
		Domestic consumers	Price-taker		
		Foreign consumers			Price-maker
	Resource allocation	Non-market input suppliers	Random public resource allocation		
		Other VC actors	No resource allocation	Large-scale buyers, private sector and bi- and multilateral donors provide advice and input assistance	
	Technical assistance	Non-market input suppliers	Technical assistance		
		Other VC actors	No technical assistance	Large-scale buyers and bi- and multilateral donors provide advice and input assistance	
	Input supply	Non-market input suppliers	Varying degrees of support on input supply		
		Other VC actors	No support on input supply	Large-scale buyers and bi- and multilateral donors provide advice and input assistance	
	Labeling and certification process	Other VC actors	No support on labelling and certification process	Large-scale buyers and bi- and multilateral donors provide advice and support for certification	