WHAT WOULD IT TAKE FOR ZAMBIA’S BEEF AND DAIRY INDUSTRIES TO ACHIEVE THEIR POTENTIAL?

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INTRODUCTION

This note explores the prospects for growth in Zambia’s beef and dairy industries, the contribution that larger, more competitive beef and dairy industries could make to jobs and prosperity, and what it would take for these industries to achieve their potential.¹

1.1 Background

Relative to its outstanding natural grazing advantages, Zambia has a comparatively small cattle population. The country has approximately 3 million head of cattle with only 0.14 head of cattle per hectare of land suitable for grazing. In comparison, Zimbabwe has three times as many head of cattle per hectare of grazing land and Kenya more than four times as many.² Most of the national herd is held by traditional farmers and is concentrated in three of Zambia’s nine provinces (which account for over 70 percent of the traditional cattle stock), although other provinces are also well suited to cattle rearing.³

Zambia’s production and consumption of beef and dairy products is small. Together, the industries contribute approximately 1 percent of Zambia’s gross domestic product. In 2008, Zambia produced 58,400 tonnes of beef at a value of approximately US$194 million and 65,000 tonnes of raw milk at a value of US$39 million.⁴ Consumption is also relatively low. Beef consumption per capita is lower than elsewhere in sub-Saharan Africa and in the developing world at large, and milk consumption per capita is estimated at two-thirds below the World Health Organization’s recommended guidelines.⁵

International trade in beef and dairy products is limited, and there are very few exports of beef or dairy products through formal trade channels. Recorded imports of dairy products to Zambia are five times the value of exports but, overall, trade is not significant in either the beef or dairy industries.⁶ While informal exports reputedly take place, these flows are limited. Both at home and abroad, retailers and consumers are demanding higher quality and enhanced assurances about product safety, a challenge for Zambia given its disease burden and crude quality standards.
1.2 Industry Structure

There are three systems of cattle farming in Zambia and these differ significantly on measures of productivity (see Table 1):

- **Commercial farmers** (accounting for only 5-6 percent of the cattle population) use advanced cattle husbandry practices and their productivity parallels that of South Africa, the regional leader. Their productivity is, however, somewhat offset by high costs of feed and veterinary services.

- **At the opposite end of the spectrum are traditional farmers** that own 80 percent of the cattle population but are much less productive than commercial farmers. The behavior and incentives of traditional farmers differ significantly from those of commercial farmers, and are influenced by social and cultural factors (e.g. a tendency to view cattle as a store of wealth, a means of subsistence and of mechanical power rather than a means of generating income), as well as a lack of information and access to commercial markets (see Box 1). As a result, traditional farmers use fewer and lower quality inputs (e.g. feed, breeding stock, and veterinary care) and their cattle have poorer nutrition, lower product yields, and higher rates of disease.

- **In the middle of the spectrum are emergent farmers**, who are transitioning to commercial farming and combine aspects of both the traditional and commercial systems. They view cattle as both a source of income and a social asset, and are prepared to invest limited resources in disease prevention and supplementing natural pasture. Despite lower product yields than commercial farmers, emergent farmers are the most cost-competitive of the three systems, primarily due to their reliance on low-cost grazing and supplemental feeding (as opposed to the costly zero-grazing of commercial farmers).³

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Traditional</th>
<th>Emergent</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle population (%) of total</td>
<td>80%</td>
<td>14-15%</td>
<td>5-6%</td>
</tr>
<tr>
<td>Calving rate (% per year)</td>
<td>55%</td>
<td>In between traditional and commercial</td>
<td>70-80%</td>
</tr>
<tr>
<td>Calving mortality (% per year)</td>
<td>20%</td>
<td>In between traditional and commercial</td>
<td>1-2%</td>
</tr>
<tr>
<td>Adult deaths (% per year)</td>
<td>5% (adult) -7% (heifer)</td>
<td>Lower than traditional</td>
<td>Lowest</td>
</tr>
<tr>
<td>Off-take rates (% of herd per year)</td>
<td>10%</td>
<td>10-15%</td>
<td>17-18%</td>
</tr>
<tr>
<td>Live weight (kg per cow)</td>
<td>250</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>Milk yield (litres per day)</td>
<td>2</td>
<td>7-10</td>
<td>17-23</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Low growth</td>
<td>Dynamic</td>
<td>Dynamic</td>
</tr>
</tbody>
</table>
Over 310,000 households own cattle, and individual farmers’ herd sizes are fairly small. In the case of small-scale farmers, the mean number of cattle owned is 9. Amongst medium-scale farmers, this number is 17, and amongst large scale farmers it is 66.

The processing stage of the beef and dairy value chains is immature and inefficient. For beef, the major processors are vertically integrated from the farm to retailing, and the specialization that produces efficiencies in international industries is yet to take hold. The beef industry used to be dominated by a single, large firm, but new competitors have recently emerged and there are now 10-15 sizeable businesses in this market. That said, the largest player still has a market share of 40-45 percent and still possesses a dominant market position. The beef value chain is buyer-driven, with processors having power over both farmers and consumers. In the dairy industry, 4-5 processors dominate the market; with the largest of them controlling half of it. Most of them suffer from low capacity utilization due to oversized plants built prior to privatization.
Vast grazing lands could support a significantly larger cattle population in Zambia and, therefore, an increased supply of beef and dairy products. The country’s extensive grazing lands (4 times more grazing than arable land) offer a clear comparative advantage over its regional neighbors and provide ample capacity for Zambia to increase its relatively low cattle density. Cattle-farming is concentrated in just three of Zambia’s provinces currently, but all of the country’s agro-ecological zones have rainfall levels that are well suited for raising livestock. Zambia’s carrying capacity suggests that the country could support over 7 million cattle, more than twice its current population of 3 million.

Favorable market prospects, especially within the region, provide an opportunity to rapidly grow demand for Zambia’s beef and dairy products. Rising incomes, urbanization, and changing consumption patterns could drive some growth in Zambia’s domestic market for beef and dairy products, albeit from a small base today. Regional exports provide considerable scope for growth in demand. Zambia can develop a sizable volume of beef exports to the region targeting the Democratic Republic of Congo, Angola, and, if it can meet sanitary standards, South Africa. There may also be scope for increased exports of dairy products to other countries in the region, provided that non-tariff barriers to imports are eliminated or at least reduced. While there is substantial global demand, international markets for beef and dairy products are fiercely competitive and many countries impose strict quality standards. Therefore, it may take Zambia several years to compete successfully.

Potential, both on the demand and supply sides provides an opportunity to rapidly expand Zambia’s beef and dairy industries. Assuming other conditions are right (e.g. the grazing lands are used effectively and the beef and dairy products are competitive in price and quality terms), Zambia can leverage its abundance of land and take advantage of the favorable market prospects. In this way, the beef and dairy industries can expand.
Larger and more competitive beef and dairy industries could help raise prosperity, especially in rural areas. They could provide greater and more regular revenue for the country and contribute to exports and diversification. In particular, beef and dairy could deliver improved livelihoods and greater prosperity for small, rural farmers and the considerable numbers of people who earn their living from trading in beef and dairy products. These groups are predominantly informal and face considerable challenges to increasing their productivity and incomes. Given that over 310,000 households own cattle, and that these animals represent rural households’ primary store of wealth, growth of these industries could have a substantial impact on wealth creation among the rural poor. While growth in the beef and dairy industries may not create a large number of formal jobs, it could have a major impact on rural livelihoods and provide informal employment (e.g. in farming, processing, trade and transport of products).\textsuperscript{10, 11}

The scale and scope of the potential payoff from improved productivity is illustrated in Table 2, which contrasts two scenarios: “business as usual” versus the “potential” for more competitive beef and dairy industries.

| Table 2: More Competitive Beef and Dairy Industries offer Substantial Rewards |
|---|---|
| **Business as Usual** | **Zambia’s Potential (over a 10 year period)** |
| **Cattle population** | **Cattle population** |
| - 2-3% population growth per year; cattle concentrated in 3 provinces | - 5% population growth per year; cattle spread to other provinces |
| - Periodic outbreaks of disease and drought check faster growth and risk rapid losses of cattle | - Diseases are better managed and do not cause sharp drops in population |
| **Productivity** | **Productivity** |
| - Modest productivity and efficiency gains driven by continued growth and investment | - Traditional farmers develop into emergent farmers, leading output growth |
| **Cost Competitiveness** | **Cost Competitiveness** |
| - High cost base remains in place and disadvantages commercial farmers | - Bigger industry attracts more suppliers, potentially lowering the cost of inputs |
| - High cost base remains a concern | - High cost base remains a concern |
| **Market Access** | **Market Access** |
| - Primarily serving domestic market | - Zambia increases its presence in regional export markets |
| **Economic Impacts** | **Economic Impacts** |
| - High prices restrict growth of demand to no more than 1-2 percentage points above GDP growth | - Industry grows at 4-5 percentage points above GDP growth |
| - Marginal growth in formal jobs and wealth creation | - New investment creates jobs |
| - Greater prosperity for traditional farmers | - More forward and backward linkages |
| **Value of Beef and Dairy Output** | **Value of Beef and Dairy Output** |
| - US$233 million | - US$600 million in 10 years, up to US$1.6 billion in the longer term (assuming same output as Kenya) |
Zambia’s ability to capture the potential economic benefits of expanded beef and dairy industries is constrained by gaps in productivity and price competitiveness. The beef and dairy industries in Zambia are not productive compared to their counterparts in neighboring countries. Slow growth of the cattle population (and thereby low utilization of Zambia’s vast grazing lands) and low product yields result in low output volume. Low productivity, combined with high prices for both beef (dressed weight) and dairy (raw milk), makes Zambia uncompetitive relative to other countries in the region (see Figure 1).

Zambia’s main performance gaps are:

- One of the lowest densities of cattle in the region;
- Low off-take rates and live weight of animals for beef—by regional as well as international standards;
- Uncompetitive dressed weight prices (beef prices paid by consumers) which are 20 percent higher than in South Africa, the largest market in the region. This is despite competitive live weight prices (paid to farmers);
- The lowest milk yield in the region (per cow per day); and
- One of the most expensive countries in the region for raw milk (50 percent higher than in South Africa) – with these costs being passed on to processed dairy products.

It is important to note that Figure 1 shows overall indicators for each country, and that these figures can vary significantly within each country, depending on the type of farmer. For example, while overall the weight of live animals, off-take rates and milk yields in Zambia are significantly lower than those in South Africa, Zambia’s commercial sector in fact achieves weights, off-take rates and milk yields on a par with South African industry norms.
### WHAT WOULD IT TAKE FOR THE INDUSTRIES TO ACHIEVE THEIR POTENTIAL?

Why are Zambia's beef and dairy industries not growing faster when there is strong market demand for beef and dairy products and Zambia has the land to sustain a significantly higher cattle population? As highlighted in Figure 2, there are several results that, if achieved, could narrow Zambia's productivity gaps and unleash growth in the beef and dairy industries. A description of each result, ordered by its position in the beef/dairy value chain (rather than its relative priority) is provided underneath the figure.

**Figure 2: Results Needed for the Beef and Dairy Industries to Achieve their Potential**

<table>
<thead>
<tr>
<th>Cattle Farming (Farming &amp; Feedlots) 5.1</th>
<th>Intermediary Markets 5.2</th>
<th>Product Processing 5.3</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Better disease prevention systems and lower cost drugs and veterinary care could improve cattle health and facilitate cattle population growth</td>
<td>- Improved market access could facilitate greater market participation and income generation by traditional farmers</td>
<td>- Greater competition and capacity utilization in dairy processing could make Zambia’s dairy products more price competitive in the region</td>
<td></td>
</tr>
<tr>
<td>- Better availability and affordability of breeding and feeding inputs could reduce production costs and improve calving rates and yields</td>
<td></td>
<td>- Greater specialization along the beef processing chain could help to address Zambia’s uncompetitive dressed weight prices</td>
<td></td>
</tr>
<tr>
<td>- Improved farming practices and business acumen of traditional farmers could translate into greater productivity and returns</td>
<td></td>
<td></td>
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</tbody>
</table>

**Enabling Environment 5.4**

- Easier access to and lower cost of finance could facilitate greater investment in and growth of the beef and dairy industries
- Better road and electric power infrastructure could lower the costs of doing business
- A better regulatory environment could increase investment in the beef and dairy industries and enhance their performance

Note: No results were identified specific to the retail part of the beef and dairy value chains.
5.1 Cattle Farming

Better disease prevention systems and lower cost drugs and veterinary care could improve cattle health and facilitate cattle population growth. Relative to other countries in the SADC region, Zambia suffers from a high incidence of cattle diseases, the key factor behind its low cattle density and inability to sustainably grow its cattle population. In 2008 and 2009, Zambia registered incidents of all economic diseases, especially Foot and Mouth Disease and East Coast Fever. Most of these diseases have been eliminated or have been brought under effective control in competing neighboring countries such as South Africa, Botswana, Namibia and Zimbabwe. The heavy disease burden has also prevented the beef industry from meeting quality certifications for export markets.

Commercial farmers feel compelled to adopt costly zero-grazing practices to avoid infections. Disease outbreaks also lead to bans on cattle movement that precipitate sharp declines in cattle sales. The high cost, poor quality and limited coverage of animal health services are major underlying causes. Veterinary services are provided by the Government and the private sector. Government vets and para-vets can be hired at a very reasonable price, but may not always be available or willing to travel. In the private sector, the number of vets specializing in cattle is low, resulting in call-out rates (cost of veterinarians making a visit to a farm) of US$250 to US$1,000—a barrier for all but the wealthiest commercial farmers. Drugs, too, are relatively costly. Large international drug producers have not invested in Zambia’s small market, and importing small quantities of drugs from (typically) South Africa is expensive for farmers.

Better availability and affordability of breeding and feeding inputs could reduce production costs and improve calving rates and yields. The limited supply and high costs of breeding stock and commercial feed raise costs of production and—for the many farmers unable to afford and, therefore, use, these inputs—reduce calving rates and yields. Government breeding centers do not supply enough breeding stock, and non-tariff barriers restrict imports. As a result, private breeders take advantage of unfulfilled demand by charging excessively high prices. Feed is also comparatively expensive—15 percent higher than in South Africa. The international feed companies that supply the specialist ingredients for pre-mixes are not present in Zambia because of the small market size, and the need to import ingredients (especially when transportation costs are taken into account) results in relatively high production costs for domestic feed companies. Furthermore, the prices of most feed ingredients produced in Zambia are set at (or, as has tended to be the case for maize, above) international prices. Hence the livestock industry does not derive much benefit from the local production of feed crops. Maize bran, which is used extensively in the feed industry as a low-cost source of roughage, is exported to neighboring countries. Domestic feed companies tend to focus on poultry feeds and, in any case, cannot compete on cost with farm-produced feeds—even though their feeds might ultimately prove more economical due to their superior nutritional value.
Box 1: Traditional Farmers

Traditional farmers in Zambia have few incentives to view cattle as a productive asset from which income could be increased. On the output side, markets are underdeveloped; pricing is opaque; licensing is complex; and the costs of transporting cattle to markets are high. These constraints favor a low-risk, low-investment approach; especially when the high costs and limited availability of key inputs such as breeding, drugs, and veterinary services are also considered.

Information and knowledge gaps further compound the problem. Ineffective extension services mean that traditional farmers are often unaware of low-cost practices and new approaches. Instead, they rely on traditional rather than artificial methods of insemination; poor feed selection and grazing practices; and weak disease-management approaches. These practices translate into poor calving rates, poor animal health, high mortality and low product yields—all of which suppress market returns.

Failures in the banking system also play a role in limiting the market participation of traditional farmers. Faced with high costs of credit and limited access to banking services, traditional farmers instead rely on cattle as what they consider safer, four-legged “banks”. Viewing cattle as stores of wealth rather than commercial assets (a view reinforced by poor market returns), makes traditional farmers reluctant to sell cattle for slaughter. Instead, cattle tend to be liquidated when cash is needed for key life events (e.g. to pay school fees, funeral expenses and bride price). The concurrent timing of these events, such as the need to pay school fees in January, means a large share of traditional farmers (which account for the majority of the country’s cattle stock) sell at the same time, causing a spike in supply that drives down prices. Together, these factors create a vicious circle of low inputs, productivity and returns.

Improved farming practices and business acumen of traditional farmers could translate into greater productivity and returns. Due in part to a lack of know-how and skills (as well as, as illustrated in Box 1, limited incentives), traditional farmers employ outdated farming practices and lag behind emergent and commercial farmers on growth and productivity measures. This shortage of know-how stems from weak extension services and is exacerbated by poor-quality infrastructure that restricts the flow of information (e.g. the high cost and low coverage of information and communications technology has reduced the flow of information to and from rural areas). In addition to a wider adoption of more advanced and effective animal husbandry practices, traditional farmers would also benefit from skills and incentives to improve market and investment decisions, such as timing sales based on prevailing prices, and weighing the costs/benefits of investing in improved animal health and nutrition.
5.2 Intermediary Markets

Improved market access could facilitate greater market participation and income generation by traditional farmers. The lack of organized cattle marketing events in rural areas means that traditional farmers lack a sales outlet for their animals that ensures transparent price formation. The combination of license/permit issues and transport availability/cost encourages traditional farmers to sell to informal cattle traders at the “farm gate”, even though they could get higher prices by bringing their cattle directly to feedlots and abattoirs. More developed formal markets such as a wholesale market for beef would allow farmers to better gauge market trends and opportunities, while better transport infrastructure and a more streamlined business/regulatory environment would ease access to such markets (see 5.4). Progress is slowly being made, as traditional farmers, once primarily oriented towards beef, increasingly recognize the value of the daily cash flows available in the dairy market.

5.3 Product Processing

While the processing of meat and dairy products suffers from many of the same constraints that affect Zambia’s broader manufacturing sector, there are two main results that—if achieved—could significantly boost the competitiveness of the processing part of the beef and dairy value chains:

Greater competition and capacity utilization in dairy processing could make Zambia’s dairy products more price competitive in the region. The Zambian dairy processing industry is not efficient, and this compounds the lack of competitiveness (particularly in price terms) in producing raw milk. The industry is dominated by 4-5 large processors, which together account for over 90 percent of the market. Since many of these processors’ plants were overbuilt during the period of public ownership, they suffer from low capacity utilization, and therefore higher fixed costs than competitors in South Africa. Furthermore, due to a lack of domestic competition, there is little pressure to increase efficiency and to innovate. Larger plants are spread out across the country and do not compete head-to-head. The only competition comes from smaller plants that do not have sufficient share to influence the market.

Greater specialization along the beef processing chain could help to address Zambia’s uncompetitive dressed weight prices. In the beef industry, Zambia is competitive in live weight but not when it comes to dressed weight (see Figure 1). This is largely due to cost inefficiencies in the middle section of the value chain. The majority of feedlots, abattoirs and butcheries are owned by firms that are completely vertically integrated. Several drivers encourage vertical integration, including difficulties with sourcing needed goods and services (including an adequate supply of beef), and challenges with contract enforcement. Those businesses that have successfully vertically integrated tend to be better positioned when it comes to lobbying Government, thereby creating barriers to entry that are challenging for new entrants to overcome. More specialization at specific stages of the value chain could drive greater competition, process efficiencies and economies of scale, and lead to the development of wholesale and secondary markets. All of these could bring greater processing cost efficiencies and potentially contribute to a fall in the dressed weight price.
5.4 Enabling Environment

Easier access to and lower cost of finance could facilitate greater investment in and growth of the beef and dairy industries. Finance is a key input, as it enables farmers to increase the size of their herds, invest in fodder crops, and purchase drugs and veterinary care to increase output. Not surprisingly, agricultural firms that have access to banking services are 44 percent more productive than those that do not have such access. Access to affordable finance also facilitates investment in other parts of the supply chain (e.g. processing plant and abattoirs, which require significant capital investment upfront). Yet, despite progress in recent years, financial intermediation remains low in Zambia overall. Access to banking services among smallholders in the livestock sector is also low (17 percent). There are several factors that limit affordable access to finance in Zambia. In particular: (i) interest rates are high (20-30 percent), especially for small borrowers; (ii) banks rely on high collateral requirements (130-150 percent) that cannot be securitized by the asset purchased with the loan; (iii) long-term finance, needed to establish new farms or improve the breeding stock on existing farms, is not available (banks prefer 1-2 year terms, with a maximum of 3 years); and (iv) banks in Zambia have a limited understanding of agricultural markets and agricultural finance.

Better road and electric power infrastructure could lower the costs of doing business. Infrastructure in the rural areas of Zambia is typically poor. Long distances combined with limited road coverage and poor road conditions result in long transit times and high transport costs (due to expensive truck maintenance and diesel fuel). Electric power is essential to modern, competitive beef and dairy industries; yet in Zambia, rural access is severely limited. For agricultural firms in Zambia, access to electricity is associated with 52 percent higher productivity; but even in provinces along the line of rail, only about 6 percent of rural MSMEs are connected. Farmers in other provinces have even lower access. Outages are a concern and, in the absence of reliable access to grid electricity, processors and farmers must rely on expensive standby diesel generation.

A better regulatory environment could increase investment in the beef and dairy industries and enhance their performance. While there is need for some regulation of Zambia’s beef and dairy industries, several elements of the prevailing regulatory environment are having an adverse impact on the industries’ productivity and competitiveness. As alluded to earlier, when discussing the market access of traditional farmers, complex and cumbersome licensing and permitting requirements contribute to the decision of many farmers to sell at below-market prices at the farm gate. Processors also face a multitude of licenses, permits and certificates, many of which require annual inspections and increase the cost of doing business (without necessarily improving the quality of the product). Local councils charge a levy on all beef and dairy products. Since this is a levy and not a tax, levy revenues left over after paying for the cost of inspection could be invested in infrastructure for the industries, but, in practice, this does not happen. Quality standards for beef and dairy products are private (developed by the industries themselves) and crude. Enforcement of standards, particularly for informal farmers and processors, is weak.
Clearly, the scope for and potential benefits from improved industry productivity are substantial. They are also much needed, as despite sustained macroeconomic growth, poverty levels in rural Zambia remain high. Given the vast potential of these industries, and the strong commitment of Government, business, civil society and donors to improve industry performance, there is a real opportunity for stakeholders to chart an effective way forward and to monitor their progress over time. This note and the detailed technical report that accompanies it are tools that can be used by stakeholders throughout this process. Specifically, by benchmarking productivity levels against other countries (and within Zambia), stakeholders can evaluate their performance and hold each other accountable for improving performance. Increased productivity is key to competitiveness, which, in turn, can fuel jobs and prosperity.
While the beef and dairy industries have significant differences and cannot be considered a single industry, they share a number of characteristics. For simplicity’s sake, this note covers both industries together and, where appropriate, highlights the differences.

Cattle density in Botswana and South Africa is comparable to that in Zambia. In the case of the former, this is partly due to 17 percent of the grazing land being reserved for wildlife. In the case of the latter, much grazing land has been allocated to sheep and goats (South Africa has twice as many sheep/goats as cattle, while Zambia has less than half as many sheep/goats as cattle).

For a definition of traditional farmers see section 1.2.

Not including milk output from the traditional sector. As a comparison, Kenya produced 367,500 tonnes of beef and 4,158,000 tonnes of raw milk, while Zimbabwe produced 103,900 tonnes of beef and 388,500 tonnes of raw milk.

Annual per capita beef consumption in Zambia is 2.4-4.0 kg per year compared to 11 kg per year in the developing world at large.

In 2007, combined annual per capita imports and exports of beef and bovine animals equaled 1 cent of a U.S. dollar. The annual per capita consumption of imported dairy products (Zambia is a net importer) equaled 84 cents of a U.S. dollar.

Feed accounts for the major proportion of raw milk production costs throughout the world and it is the lower cost of feed that makes the emergent farmer more efficient and competitive in the dairy industry, in particular.

Zambia’s grazing area of 20.3 million hectares currently supports just 3 million cattle. In comparison, Zimbabwe’s 12.1 million hectares support 5.4 million, while Kenya, with virtually the same amount of grazing land as Zambia, has a cattle herd of 13.5 million.

Zambia’s customary and leasehold tenure systems leave most small scale farmers with little control over/opportunity to sell land.

At present, formal jobs in the industries are probably less than 5,000.

In Zambia, livestock (overall, not just beef and dairy) contribute 39.2 percent of rural incomes.

There are different views as to what is likely to be the most effective approach to combating disease in Zambia, with proposals ranging from cordoned-off disease free zones (as are used in Botswana, Namibia and several other countries in the region), to alternative approaches that target disease prevention and monitoring along migration routes and where disease prevalence is high, as well as quarantine facilities for animals destined for export.

In the 1970s and 1980s, the cattle population increased at a reasonable annual average of 3.3 percent and 2.8 percent, respectively. But as a result of disease outbreaks, the cattle population declined from 2.9 million to 2.6 million during the 1990s. The 2000s have also witnessed periodic, severe outbreaks, and population has increased at a modest average of 1.2 percent per year.

An exotic bull for breeding costs around US$1,800, and animals are in short supply.

In return for this service they provide to farmers (enabling farmers to avoid some of the difficulties associated with transport and regulations), informal cattle traders take a cut of the revenue ultimately generated by the sale of the cattle.

The fact that dairy farmers do not have to liquidate the asset (i.e. slaughter the cow) to capture value is another important incentive.

Constraints to manufacturing were profiled in World Bank. 2009. Investment Climate Assessment and in Clarke et al. June 2010. The Profile and Productivity of Zambian Businesses. While a number of cross-cutting constraints impede the productivity of manufacturers, priority issues include the access to/cost of infrastructure and financial services; taxation; education; and crime, theft and corruption.

As evidenced by the low share of private credit to GDP (12 percent in 2007). However, while agriculture contributes 14 percent of GDP, it accounts for 20 percent of bank loans (by volume).

Bank lending rates at the end of 2009 were 29 percent in Zambia compared to 15 percent in Kenya. 14 percent in Tanzania and 22 percent in Malawi. Borrowing in U.S. dollars is cheaper (around 12 percent) but carries a high exchange rate risk as the cattle industry mainly sells in Kwacha.

Among MSMEs, more than half report spending between one hour and one day transporting their products to market (Clarke et al. June 2010. The Profile and Productivity of Zambian Businesses).

Long transit times are of even more importance when products must be kept cool (i.e. refrigerated transport and/or short journey times are necessary).

Electricity is needed not only to power equipment in abattoirs but also to operate the cold rooms and refrigeration equipment needed by retailers. In dairying, the chilling of raw milk is required on farm or at collection centers.

What would it take for Zambia’s beef and dairy industries to achieve their potential?

Extensive grazing lands and strong domestic and regional demand for beef and dairy products provide Zambia with significant potential for expanding its beef and dairy industries. These industries have the potential to grow at 4-5 percentage points above the rate of GDP growth, to a value of US$600 million per year within 10 years, and up to as much as US$1.6 billion per year in the longer term. Such growth could make a significant contribution to jobs and prosperity for Zambians, particularly in rural areas.

However, Zambia’s beef and dairy industries are currently constrained by gaps in productivity and price competitiveness relative to other countries in the region and beyond. To boost industry productivity, several actions are required, including improving infrastructure, increasing the effectiveness of disease prevention systems, making available affordable key inputs, creating an enabling regulatory environment and improving the skills and market access of traditional farmers, among others.

What benefits could be derived from more productive beef and dairy industries and what is needed to help the industries to achieve their potential? This note seeks to answer these questions. It provides a summary of the analysis contained in a forthcoming World Bank report: What Would it Take for Zambia’s Beef and Dairy Industries to Achieve their Potential?

This note and the detailed report from which it is drawn were produced under the Jobs and Prosperity: Building Zambia’s Competitiveness Program, a joint venture between the Government of Zambia, the Zambian private sector, civil society and cooperating partners. For more information on the issues raised in this note, or for a copy of the main report, please see www.worldbank.org/zambia or contact Mr. Jumbe Ngoma, Communications Officer, World Bank - Zambia Country Office, jngoma@worldbank.org.