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BOTSWANA

BEEF VALUE CHAIN: STRATEGY AND ACTION PLAN FOR COMPETITIVE SUSTAINABILITY'

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CONTENTS

LIST OF FIGURES.....	i
LIST OF TABLES	i
ABBREVIATIONS AND ACRONYMS	ii
EXECUTIVE SUMMARY.....	iv
1. INTRODUCTION AND APPROACH.....	1
1.1. INTRODUCTION TO THE REPORT	1
1.2. BEEF SECTOR RECOMMENDATIONS IN CONTEXT	1
1.3. VCAD APPROACH AND REPORT STRUCTURE	2
2. THE BEEF SECTOR AND ITS EXPORTS IN THE GLOBAL CONTEXT	3
2.1. BACKGROUND TO THE BEEF SECTOR IN BOTSWANA	3
2.2. GLOBAL BEEF PRODUCTION AND TRENDS	4
2.3. EVOLUTION OF BEEF PRODUCTION IN BOTSWANA	5
2.4. GLOBAL EXPORT AND IMPORT MARKETS IN FRESH, CHILLED AND FROZEN BEEF	7
2.5. BOTSWANA'S BEEF EXPORTS	10
2.6. IMPLICATIONS FOR THE BEEF VALUE CHAIN	12
3. THE BEEF VALUE CHAIN	13
3.1. INTRODUCTION	13
3.2. BEEF VALUE CHAIN MAP	13
3.3. PRODUCTION	15
3.4. PROCESSING	22
3.5. MARKETING AND DISTRIBUTION	24
3.6. OTHER INPUTS	26
4. SUPPORT INSTITUTIONS IN THE BEEF SECTOR	28
4.1. INTRODUCTION	28
4.2. PUBLIC TRADE SUPPORT INSTITUTIONS	28
4.2.1. VETERINARY SERVICES	28
4.2.2. LIVESTOCK IDENTIFICATION AND TRACE-BACK SYSTEM	32
4.2.3. QUALITY CONTROL AND MANAGEMENT SYSTEMS	33
4.3. TRADE ASSOCIATIONS	34
4.4. LIVESTOCK ADVISORY CENTERS	34
4.5. TRANSPORT	35
4.6. RESEARCH AND DEVELOPMENT	35

4.7.	TRAINING	36
4.8.	FINANCE AND INSURANCE	36
5.	GOVERNMENT POLICIES RELATING TO THE BEEF SECTOR	38
5.1.	INTRODUCTION	38
5.2.	LAWS AND REGULATIONS AFFECTING THE SECTOR	38
5.3.	POLICY FRAMEWORK	39
5.4.	OTHER CORE SUPPORT POLICIES AND INITIATIVES	41
5.5.	PROFESSOR MICHAEL PORTER'S RECOMMENDATIONS	43
5.6.	TRADE POLICY RELATING TO THE BEEF SECTOR.....	43
6.	COMPETITIVE CONSTRAINTS	44
6.1.	INTRODUCTION	44
6.2.	BORDER-IN GEAR: SUPPLY SIDE CONSTRAINTS	45
6.3.	BORDER GEAR: QUALITY OF BUSINESS ENVIRONMENT ISSUES	48
6.4.	BORDER-OUT GEAR: MARKET ENTRY CONSTRAINTS	52
6.5.	SOCIAL DEVELOPMENT GEAR.....	55
7.	BEEF SECTOR EXPORT MARKET DEVELOPMENT AND VALUE OPTIONS.....	58
7.1.	INTRODUCTION	58
7.2.	MARKET DEVELOPMENT OPTIONS.....	58
7.3.	VALUE OPTIONS	61
8.	PROPOSED STRATEGY	63
8.1.	INTRODUCTION	63
8.2.	SWOT ANALYSIS	63
8.3.	STRATEGIC VISION FOR EXPORT MARKETS.....	64
8.4.	STRATEGIC OBJECTIVES	65
9.	STRATEGIC ROADMAP FOR THE BEEF SECTOR.....	68
9.1.	INTRODUCTION	68
9.2.	FURTHER ENHANCING DVS PERFORMANCE	68
9.3.	FINDING COORDINATED SOLUTIONS FOR FMD-RELATED ISSUES	70
9.4.	REPOSITIONING BOTSWANA BEEF AND STRENGTHENING BMC EXPORT CAPACITY	72
9.5.	STRENGTHENING COMMUNAL FARMING.....	74
9.6.	FURTHER REFORMING BMC AND LIFTING EXPORT MONOPOLY.....	76
9.7.	IMPROVING THE SECTOR'S SUPPORT NETWORK	79
9.8.	IMPROVING REGIONAL COOPERATION.....	82

10. PRIORITY PROJECT IDEAS FOR PSDP	84
10.1. INTRODUCTION	84
10.2. STRENGTHENING COMMUNAL FARMING PRACTICES	85
10.3. IMPROVING DVS SERVICE DELIVERY	87
10.4. BRANDING OF BOTSWANA BEEF AND DEVELOPING EXPORT CAPACITY AT BMC	90
10.5. INCREASING THE EFFECTIVENESS OF BEEF PRODUCER ASSOCIATIONS	90
BIBLIOGRAPHY	91
ANNEX I: PROPOSED PROJECTS FOR PSDP OR PARTNER SUPPORT	92
ANNEX II: LIST OF MEETINGS AND INTERVIEWS	128

LIST OF FIGURES

Figure 1: VCAD approach and report structure	2
Figure 2: World top beef producers.....	4
Figure 3: Trends in production of main meat categories	5
Figure 4: Trend in world beef export prices.....	9
Figure 5: Share of beef in Botswana's exports.....	10
Figure 6: Trends in Botswana's beef exports	10
Figure 7: Major beef export destinations	11
Figure 8: The beef value chain	14
Figure 9: Botswana cattle population trends.....	15
Figure 10: Geographic distribution of cattle	16
Figure 11: Cattle distribution by holding	16
Figure 12: Cattle sales by type of buyer.....	19
Figure 13: Average prices realized by traditional and commercial producers	20
Figure 14: Traditional and commercial farm cattle performance	21
Figure 15: BMC domestic vs export sales and prices.....	26
Figure 16: DVS Organizational structure.....	29
Figure 17: Veterinary control zones.....	30
Figure 18: Trend in measles infection in cattle	31
Figure 19: Geographic distribution of Livestock Advisory Centers	34
Figure 20: The four gears of export competitiveness.....	44
Figure 21: Gender distribution of traditional cattle holdings	57
Figure 22: Outline of proposed PSDP interventions in the beef value chain.....	84
Figure 23: Structure of proposed communal farming pilots projects	85
Figure 24: Components of proposed DVS project	87

LIST OF TABLES

Table 1: Top 10 global fresh, chilled and frozen beef exporters	7
Table 2: Top 10 global fresh, chilled and frozen beef importers	8
Table 3: Model of performance potential in cattle production.....	21

ABBREVIATIONS AND ACRONYMS

BCA	Botswana College of Agriculture	ITC	International Trade Center
BCPA	Botswana Cattle Producers Association	LAC	Livestock Advisory Center
BEAC	Business and Economic Advisory Council	LIMID	Livestock Management and Infrastructure Development Program
BITC	Botswana Investment and Trade Centre	LITS	Livestock Identification and Trace-back System
BMC	Botswana Meat Commission	LMIA	The Livestock and Meat Industries Act 2006
BMTPA	Botswana Meat Traders and Processors Association	MIS	Management information systems
BNBPU	Botswana National Beef Producers Union	MITI	Meat Inspection Training Institute
BNVL	Botswana National Veterinary Laboratory	MOA	Ministry of Agriculture
BOBS	Botswana Bureau of Standards	MOFAIC	Ministry of Foreign Affairs and International Cooperation
BOCCIM	Botswana Confederation of Commerce, Industry and Manpower	MOH	Ministry of Health
BVI	Botswana Vaccine Institute	MOLH	Ministry of Lands and Housing
CAGR	compounded annual growth rate	MTI	Ministry of Trade and Industry
CBT	Commodity Based Trading	NDB	National Development Bank
CCARDESA	Centre for Coordination of Agricultural Research & Development for Southern Africa	NDP	National Development Plan
CDE	Center for the Development of Enterprise	NFTRC	National Food Technology Research Centre
CDM	Cold dress mass	NSO	National Strategy Office
CEDA	Citizen Entrepreneurial Development Agency	OIE	World Organization for Animal Health
CPA farmers	Cattle post area farmers	PPP	Private Public Partnership
CWE	Carcass Weight Equivalent	PRINT	SADC Promotion of Regional Integration Project
DABP	Department of Agricultural Business Promotion, MOA	PSDP	Private Sector Development Programme
DAP	Department of Animal Production, MOA	RFID	Radio Frequency Identification
DAR	Department of Agricultural Research, MOA	SACU	Southern African Customs Union
DVS	Department of Veterinary Services, MOA	SADC	Southern African Development Community
EDD	Economic Diversification Drive	SADCAS	Southern African Development Community Accreditation Service
EPP	Export parity price	SANAS	South African National Accreditation System
ES	Extension services	SDVO	Sub-District Veterinary Office
EU	European Union	SMME	Small, micro and medium-sized enterprise
FAO	Food and Agricultural Organization	SWOT analysis	Analysis of strengths, weaknesses, opportunities and threats
FMD	Foot and Mouth Disease	TA	Technical assistance
GDP	Gross Domestic Product	TGLP	Tribal Grazing Lands Policy

GPS	GPS Food Group	USDA	United States Department of Agriculture
IEPA	Interim Economic Partnership Agreement (EU)	VCAD	Value chain analysis and development
ISO	International Standards Organization	VGA	Village grazing area farmers
ISPAAD	Integrated Support Programme for Arable Agricultural Development	farmers	

EXECUTIVE SUMMARY

Background to the value chain analysis and development

This strategic value chain analysis and development (VCAD) of Botswana's beef sector has been undertaken as part of a partnership between the Centre for the Development of Enterprise (CDE) and the International Trade Centre (ITC). It is the first of three studies, the others being tourism and horticulture. The objectives of all three studies are to identify bottlenecks and constraints in the sectors' value chains, especially related to exports and Small, Micro and Medium-Sized Enterprises (SMME), and to propose a strategy and roadmap to alleviate such constraints. The collaboration between CDE and ITC takes place within the framework of Botswana's Private Sector Development Programme (PSDP).

Botswana's beef sector is at a critical juncture. The industry is important for Botswana's rural population, and constitutes an important source of export earnings. It has been highlighted as a strategic sector within the country's Economic Diversification Drive. At the same time, the sector is hampered by structural problems, including an export monopoly and lack of scale, which constrains its commercial potential. Recent years have seen a large reduction in the cattle population and the exit of significant numbers of commercial farms from the sector. Weaknesses in the country's cattle traceability system prevented access to the important EU market for 19 months in 2011-2012, and caused large disruptions in the domestic market due to the resulting surplus. The sector's production, processing and export performance lags behind those of its competitors such as Namibia and South Africa.

Given the beef sector's strategic importance, a number of studies and recommendations have been made to address its weaknesses. In particular, the Food and Agricultural Organization (FAO) and the Ministry of Agriculture (MOA) undertook a detailed analysis of the sector's value chain in 2013 (the FAO Report). The VCAD draws on the FAO Report, other studies and reports on the sector, and extensive consultation with participants in all the aspects of the beef value chain. The focus has been to build on existing information to propose a coherent strategy for the sector's export channel. This initiative seeks to chart out a detailed roadmap aimed at achieving the strategic objectives proposed, and provide a set of interventions for PSDP and its partners that have been designed in-depth.

Botswana is currently in the process of implementing a number of policies and strategies at the national level. These include the National Development Plan (NDP) 10 for the period 2009-2016; The Private Sector Development Strategy; the Agricultural Sector Marketing Strategy; and, in particular, Dr. Michael Porter's recommendations on implementing a clustering development approach to selected sectors where Botswana has a natural advantage, of which beef was identified as one¹. The sector roadmap presented in this report is intended to reinforce the impact of existing proposals and facilitate the achievement of their goals.

The findings and recommendations presented in this report were confirmed and supported during a validation workshop held in Gaborone in June 2014, in which representatives from a wide range of stakeholder organizations participated.

¹ Report produced by Monitor Group

The global beef market and Botswana's position

In 2013, the global beef export market was estimated at US\$42.4 billion, divided broadly equally between fresh or chilled, and frozen beef. The market is dominated by the top 10 producers, who account for over 80% of exports. Botswana is a relatively small exporter of beef in the global context. In 2013, its total beef exports were US\$116.6 million, representing a world export market share of 0.3%. Botswana was ranked 22nd and 28th in the world in the export of frozen and chilled beef, respectively.²

The beef sector is estimated to account for less than 2% of Botswana's GDP, and 1.5% of its merchandise exports. Nevertheless, it is considered to be a strategically important sector, with the country's pastures providing it with a natural advantage in producing high quality grass-fed beef, and the sector's performance affecting the livelihoods of a large number of livestock farmers.

Botswana's beef exports are highly concentrated in the South African and European (mainly UK, Germany and Norway) markets, which, together with Netherlands, accounted for 97% of the country's beef exports in 2013. Exports have been rising steadily over the last two decades, but the 2007-08 global crisis, followed by a suspension from the EU market in 2011 and 2012 as a result of failure to comply with standards, have caused declines. Exports have been recovering and the country has regained EU market access. Nevertheless, beef exports are still significantly below the 2010 peak of US\$158.6 million.

The beef value chain

In carrying out the value chain mapping exercise, the ITC team has drawn heavily on the FAO Report, which provides an in-depth analysis of the beef value chain. Where possible, the information provided in that report has been updated.

The production segment of the beef value chain is broadly divided into two classes of producers. Of the estimated 2.2 million cattle, 88% is raised by mainly small communal farmers, often with very small holdings, practicing traditional, less efficient, methods. The remainder is owned by 809 commercial farms, usually implementing more modern husbandry and commercial practices. There is also an increasing trend toward feedlotting in the industry, both to ensure export compliance and to guarantee consistency of quality and supply. Profitability of the industry is low, and performance measures compare unfavourably with international competitors.

The export processing sector is dominated by the Botswana Meat Commission (BMC), a government owned entity that enjoys a national monopoly to export beef. BMC has a processing capacity of 1,100 head of cattle, but often production remains substantially below capacity, especially out of season. Various studies have highlighted inefficiencies at BMC, which, if addressed, could have a positive impact on the sector's value chain. BMC's work is made difficult by its dual mandate: to function as a commercially oriented exporter of beef, while at the same time serving a social function in the interest of all livestock farmers.

The marketing and distribution component of the beef value chain is discharged by GPS Food, a UK based distributor of meat that has a contract to market BMC's beef in key export markets. Although it does not have exclusive rights, practically all of Botswana's beef exports are arranged by GPS. BMC itself lacks any meaningful marketing, or market intelligence analysis capacity.

² Source: ITC Trade Map.

The MOA Department of Veterinary Services (DVS) is the main support provider to the sector. The quality of services provided is high, but over time DVS has accumulated a number of responsibilities that it finds difficult to discharge effectively. In particular, weak implementation of the current Livestock Identification and Trace-Back System (LITS) and slow transition to a new one is causing severe problems in the sector. Other services, such as the availability of technical and commercial information are limited. The various government agencies need to coordinate their efforts more. Beef industry associations are weak.

Competitive constraints and bottlenecks in the beef value chain

The analysis in this study relies on the ITC Four Gears Framework to identify export competitive constraints in Botswana's beef value chain. The four gears relate to: constraints relating to supply of beef (Border-in); the quality of the value chain's business environment (Border); export market entry bottlenecks (Border-out); and long term sustainability issues (Development). The principal constraints identified are outlined below:

BORDER-IN GEAR: SUPPLY-SIDE ISSUES

Capacity development

- The sector is dominated by small, potentially uneconomic holdings.
- Weather fluctuations, droughts and shortage of underground water hamper the sector's performance.
- Seasonality of supplies to slaughtering facilities reduces supply chain efficiency.
- Persistent food and mouth disease (FMD) in the north of the country reduces volumes and prices achievable for exports.
- High overhead costs at BMC, exacerbated by inconsistent throughput, impose a cost to the entire sector.

Capacity diversification

- There is a need to invest in technology, R&D and production capacity to produce different cuts, packaging, etc. for export.
- The range of secondary processed beef available is limited.

Development of skills and entrepreneurship

- Traditional pastoral methods often impede the introduction of modern husbandry techniques.
- Most communal farmers and many commercial farms do not approach livestock farming commercially and regard it rather as a lifestyle-related practice.

BORDER GEAR: QUALITY OF THE BUSINESS ENVIRONMENT

Infrastructure and regulatory issues

- Underdeveloped transport and communication infrastructure increases costs and disrupts access to supplies and markets.
- BMC lacks modern, flexible packaging facilities for exports.
- BMC's monopoly on exports disrupts the value chain and the lack of competition discourages innovation.
- BMC lacks the technology to promote commodity based trading of appropriately treated beef from the FMD affected zones.
- Politicization of the sector prevents strict enforcement of some regulations.
- Import restrictions distort the market and can limit the scope for increasing the export of higher quality beef.

Trade facilitation

- There is limited technical and economic information available to sector participants.
- Botswana does not have access to meaningful independent export market intelligence. This situation is particularly apparent with BMC which has outsourced this function to GPS.
- There is very limited research into the sector's economics, diseases, etc.

Quality of the institutional support

- Limitations in capacity at DVS leads to lack of flexibility in its approach, low commercial orientation and inconsistent official controls and enforcement.
- Export related responsibilities among MOA departments is highly dispersed; and MTI needs to increase its involvement in trade negotiations affecting the sector.
- Beef producers associations are underdeveloped.

Cost of doing business

- There is a high reliance on expensive imported inputs including feeds and veterinary products.
- Inefficiencies in the sector's support framework increase costs and risks for participants.
- The need to comply with a wide range of certification requirements and limitations in local testing facilities causes delays and increases costs.

BORDER-OUT GEAR: MARKET ENTRY

Market access and policy reform

- There is a shortage of people, knowledge, expertise and focus on trade among policymakers.
- There is limited trade coordination at the SADC level and South Africa's interest at times differ from those of the rest of the region's countries. This weakens export negotiations.
- Reliance on exporting through South Africa poses risks of disruption.

Trade services support

- Reliance on one outsourced export agent presents a range of risks, including potential disruptions, loss of control over customer relationships and sub-optimal realization of national objectives.

National promotion and branding

- There is no national and product level branding of Botswana beef.
- Botswana beef has limited product differentiation & targeting.
- There is currently heavy concentration on exports to South Africa and Europe, especially the UK.

DEVELOPMENT GEAR

Poverty alleviation and employment generation

- Traditional communal practices constrain the sector's income generation and growth potential.
- Lack of commercialization limits capacity to generate employment.

Environmental sustainability and climate change

- Overgrazing, especially near boreholes, is contributing to environmental degradation and its impact is aggravated by disease outbreaks.
- Poor hygiene practices contaminate grazing areas, resulting in problems such as beef measles.
- Livestock and wildlife co-management including fencing creates problems.

Regional development and integration

- There is a need for increased effectiveness in regional cooperation in areas such as trade negotiations, research and disease control.

Gender and youth inclusiveness

- There is low involvement of women and youth in sector.

Proposed strategic vision and objectives

Our proposed vision statement for the export channel of the beef value chain is:

'a highly recognized producer associated with superior quality meat competitively targeting high value markets and segments, and commanding a premium price'

The statement is intended to highlight the objectives of:

- Achieving recognition, through branding and promotion.
- Association with premium quality meat, which entails implementing action throughout the value chain and its support services to produce high quality products that are delivered consistently and efficiently.
- Competitiveness, which requires increasing efficiency and reducing costs in the value chain.
- Targeting of high value markets and segments, through a range of tailored premium products aimed at a diverse set of export markets.

The VCAD analysis has proposed seven strategic objectives to realize the sector's export vision. Each objective has been prioritized as urgent (UR), very high (VH), or high (H). The strategic objectives are to:

1. Improve the effectiveness of DVS and its services to the sector.
2. Intensify efforts to find multiple solutions for cattle from FMD-infected areas.
3. Enhance beef product market positioning and diversify exports.
4. Strengthen the performance of communal livestock farming.
5. Further restructure BMC and relax its export monopoly.
6. Develop a more useful support network for the sector's value chain.
7. Improve regional cooperation on issues affecting the countries' livestock sectors.

UR	VH	H
●		
●		
●		
	●	
	●	
	●	
		●

Proposed roadmap

The proposed roadmap provides activities and initiatives for each of the strategic objectives, prioritized as urgent (U), very high (VH), or High (H).

Strategic objective 1: Improve the effectiveness of DVS and its services to the sector.

- 1.1 Realign DVS organization and strategy to meet user needs and outsource selected non-core activities.
- 1.2 Implement initiatives to control the spread of FMD and measles in cattle.
- 1.3 Improve cattle traceability and compliance with LITS regulations by moving rapidly to electronic ear tags.
- 1.4 Increase degree and consistency of the enforcement of food safety regulations.
- 1.5 Enhance Botswana National Veterinary Laboratory's capacity to meet industry needs.
- 1.6 Strengthen Livestock Advisory Centers.

UR	VH	H
●		
●		
●		
●		
	●	
	●	

Strategic objective 2: Intensify efforts to find multiple solutions for cattle from FMD-infected areas.

		UR	VH	H
2.1	Improve epidemiological understanding and control over FMD.	●		
2.2	Increase export of beef from “red zone”	●		
2.3	Enhance awareness and acceptability of risk management and risks related to FMD area beef and carry out risk assessment study to demonstrate effectiveness of risk management.	●		
2.4	Develop more systematic and strategic regional cooperation on commodity based trading exports.	●	●	
2.5	Validate effectiveness of purified FMD vaccine and implement strategy for its use.	●	●	
2.6	Diversify processing capacity outside BMC to develop technical capacity to process red zone beef for selling to the FMD-free “green zone”.	●	●	
2.7	Review and improve layout and condition of buffalo fencing in Ngamiland.		●	
2.8	Explore quarantine of FMD area cattle for export to targeted importing countries.			●

Strategic objective 3: Enhance beef product and market positioning and diversify exports.

		UR	VH	H
3.1	Build market intelligence gathering and analysis and R&D capacity at BMC.	●		
3.2	Develop export marketing and sales capacity at BMC.	●		
3.3	Develop appropriate brand, packaging, logo, etc. for Botswana beef, including for example grass-fed beef.	●		
3.4	Install new packaging lines at BMC.	●		
3.5	Diversify beef export product range and target new markets.		●	
3.6	Increase capacity of Botswana trade missions to promote beef exports.		●	

Strategic Objective 4: Strengthen the performance of communal livestock farming.

		UR	VH	H
4.1	Strengthen and commercialize traditional livestock management practices.	●		
4.2	Develop more effective coordination between the MOLH and MOA on allocating land for livestock.	●		
4.3	Promote clustering and syndication among small and medium-sized farmers.		●	
4.4	Promote cattle and feed integrated farming.		●	
4.5	Improve access to finance for small and medium-sized cattle farmers.		●	
4.6	Develop and implement Farm Quality Assurance Standards.		●	
4.7	Promote FDI into the livestock sector.			●
4.8	Review longer-term impact on sector of BMC pricing policy and trend toward feedlotting.		●	

Strategic Objective 5: Further restructure BMC and relax its export monopoly

		UR	VH	H
5.1	BMC to meet international benchmarks in processing.	●		
5.5	Reform the BMC Act.	●		
5.6	Lift the BMC export monopoly.	●		
5.2	Introduce regional procurement centers at BMC.		●	
5.3	Explore supply chain finance solutions with range of finance providers.		●	
5.4	Review and update BMC's ECCO brand for packaging secondary processed beef.		●	
5.7	Establish an institution similar to the Meat Board of Namibia to provide sector-wide support after export liberalization.		●	

Strategic objective 6: Develop a more useful support network for the sector's value chain.

		UR	VH	H
6.1	Develop and deliver appropriate technical training for farmers at all levels on all aspects of farming.	●		
6.2	Improve the availability and distribution of scientific, economic, standards, regulations, markets and consumer-related information.		●	
6.3	Improve process related to certification of cattle movement.		●	
6.4	Strengthen local livestock associations and Botswana National Beef Producers Union.		●	
6.5	Enhance capacity of government agencies to support sector.		●	
6.6	Enhance DAP's effectiveness.		●	
6.7	Build capacity in conducting trade negotiations related to the beef sector.			●
6.8	Enhance BVI's long-term sustainability.			●
6.9	Produce and disseminate more relevant research for sector.			●
6.10	Increase investment in farm infrastructure.			●

Strategic objective 7: Improve regional cooperation on issues affecting the countries' livestock sectors.

		UR	VH	H
7.1	Improve dissemination of sector-related research.		●	
7.2	Improve results-oriented collaboration on disease related issues.		●	
7.3	Increase cooperation between beef industry associations.		●	
7.4	Implement more effective trade coordination at SADC and SACU levels.			●
7.5	Strengthen regional cooperation on research into the issues affecting the sector.			●
7.6	Support regional research initiatives such as Centre for Coordination of Agricultural Research & Development for Southern Africa			●

Recommended interventions for PSDP and its partners

The following specific projects are recommended as being suitable for support by the PSDP or its implementation partners:

- Pilots on strengthening communal farming practices.
- Strengthening DVS and improving its service delivery, including the privatization or outsourcing of some of its services.
- Developing a brand of Botswana beef and strengthening marketing capacity at BMC.
- Strengthening beef associations.

1. INTRODUCTION AND APPROACH

1.1. INTRODUCTION TO THE REPORT

This beef sector strategic value chain analysis and development study (VCAD) has been produced as part of the partnership between the Centre for the Development of Enterprise (CDE) and the International Trade Centre (ITC) within the context of the Private Sector Development Program (PSDP) in Botswana. It is the first of three similar VCAD exercises, the others focusing on tourism and horticulture.

The principal objectives of VCAD are to draw on existing information and stakeholder consultations in order to identify the main opportunities and bottlenecks in the export value chains of the selected sectors; to assess whether or not technical assistance (TA) is likely to contribute significantly to increased exports by small, micro and medium-sized enterprises (SMME) in the sector; and if so to prepare plans of action or roadmaps for a comprehensive capacity building intervention within the framework of PSDP.

In developing the beef VCAD, the ITC team has drawn on the extensive studies and strategies already carried out on this strategically important sector. In particular, this analysis has built on the 2013 Food and Agricultural Organization (FAO) and Ministry of Agriculture (MOA) beef value chain study (FAO Report)³ in mapping out the beef value chain, updating the information where appropriate. This study's findings and recommendations are also based on consultations with a wide range of producers, processors, policymakers and academics involved in the sector, as listed in Annex II. Initial findings and recommendations were presented to and confirmed by key stakeholders at a validation workshop held in Gaborone in June 2014.

1.2. BEEF SECTOR RECOMMENDATIONS IN CONTEXT

The strategic recommendations and roadmap proposed in the report are intended to be consistent with and reinforce wider national and sectoral strategies being implemented in Botswana. In particular, the analysis has taken into account the recommendations of:

- National Development Plan (NDP) 10, 2009-2016.
- Botswana: Towards a New Economic Strategy. Recommendations by Professor Michael Porter in developing key strategic sectors, including beef, by way of a clustering approach.
- Botswana National Export Strategy 2010-2016.
- Private Sector Development Strategy 2009-2013.
- Botswana Agricultural Marketing Strategy 2011-2016.
- Economic Diversification Drive: Medium to Long-term Strategy 2011-2016.
- Botswana Excellence: A Strategy for Economic Diversification and Sustainable Growth

³ Botswana Agrifood Value Chain Project: Beef Value Chain Study. FAO and MOA. 2013.

1.3. VCAD APPROACH AND REPORT STRUCTURE

Figure 1 outlines the approach taken by VCAD and the structure of this report.

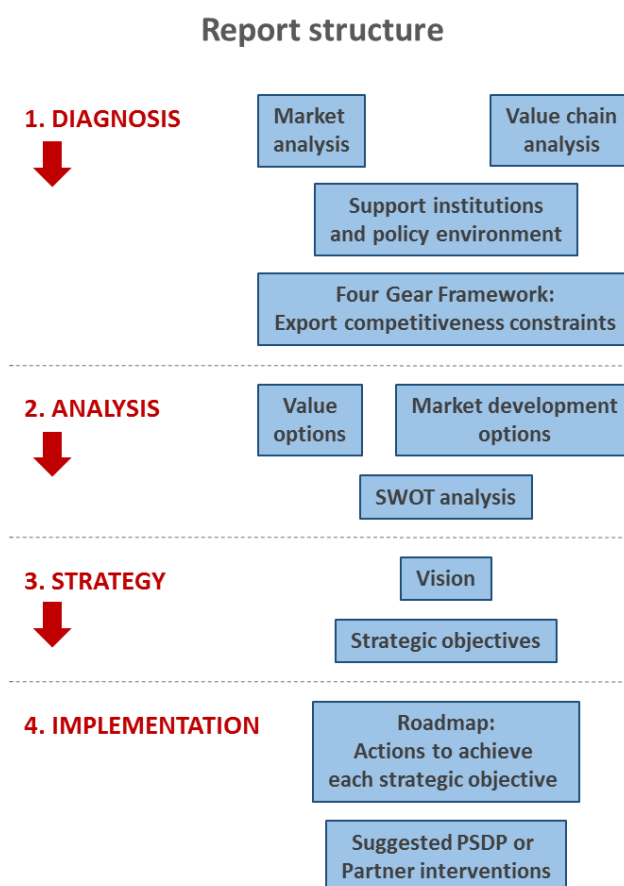
The diagnostic element of the exercise comprised an analysis of the structure and key trends in the global export markets and production in beef and Botswana's position in it (Section 2). This was complemented by the mapping and description of the key components of the beef export value chain, drawing extensively on the FAO Report and agricultural sector surveys (Section 3). The information from these two exercises, as well as an analysis of the sector's support network and policy environment (Sections 4 and 5) were drawn on to present the key export competitive constraints and bottlenecks in the value chain and its support network (Section 6). The latter applies the ITC Four Gear Framework, which analyses constraints based on supply side, quality of business environment, export market entry and developmental impact issues.

The results of the diagnosis were then built on to identify value options: how the beef value chain could be developed to acquire, create, add, retain or distribute value more effectively. In addition, options for diversifying Botswana's current beef products and markets to develop new export markets have been analysed (Section 7). Section 8 presents a SWOT analysis on the sector.

The strategic vision and objectives, presented in Section 8, are intended to bring together the VCAD findings and analyses to provide a coherent framework for intervening in the sector to realize its full export potential.

Section 9 presents a roadmap for implementation, with a number of suggested prioritized actions, to realize each of the strategic objectives. Finally, Section 10 provides more detailed development of four proposed TA interventions, for consideration of implementation under the PSDP framework or by partners.

Figure 1: VCAD approach and report structure



2. THE BEEF SECTOR AND ITS EXPORTS IN THE GLOBAL CONTEXT

2.1. BACKGROUND TO THE BEEF SECTOR IN BOTSWANA

The beef sector is of high strategic importance to Botswana, and could be potentially a significant contributor to the government's Economic Diversification Drive (EDD) initiative. Although the sector currently accounts for a relatively small proportion of the country's GDP and exports, it provides employment and livelihood to a large proportion of the rural poor and is deeply woven into the country's history and culture. The sector suffers from a number of challenges, including poor and stagnating productivity, weaknesses in support services, seasonal overcapacity and lack of profitability in processing, and under-exploitation of the quality of produce in international markets. The progress achieved in recent years by the sector's competitors, such as Namibia, suggests that if these weaknesses are alleviated, its performance could be enhanced significantly. Botswana can considerably increase the income of livestock farmers and enlarge its share of the country's economy and exports.

The agricultural sector's contribution to the country's GDP has been declining steadily since independence, when its share exceeded 40%. In 2012, the sector overall contributed to 2.9% of the country's GDP, compared with a 22% contribution by mining, 17% by trade and tourism services, and 16% by finance, real estate and business services.⁴ The beef sector constitutes a substantial proportion of agricultural production. Similarly, in 2010, prior to a sharp decline in exports to the EU discussed later in this section, beef accounted for almost 3.4% of the country's merchandise exports.⁵ Although these shares in GDP and exports are small, the sector accounts for 30% of the country's total employment.⁶

This section provides an overview of the structure of the beef sector in Botswana and its exports in the context of world export markets, trends and competition. Section 3 considers issues relating to the various components of the sector's value chain in more detail.

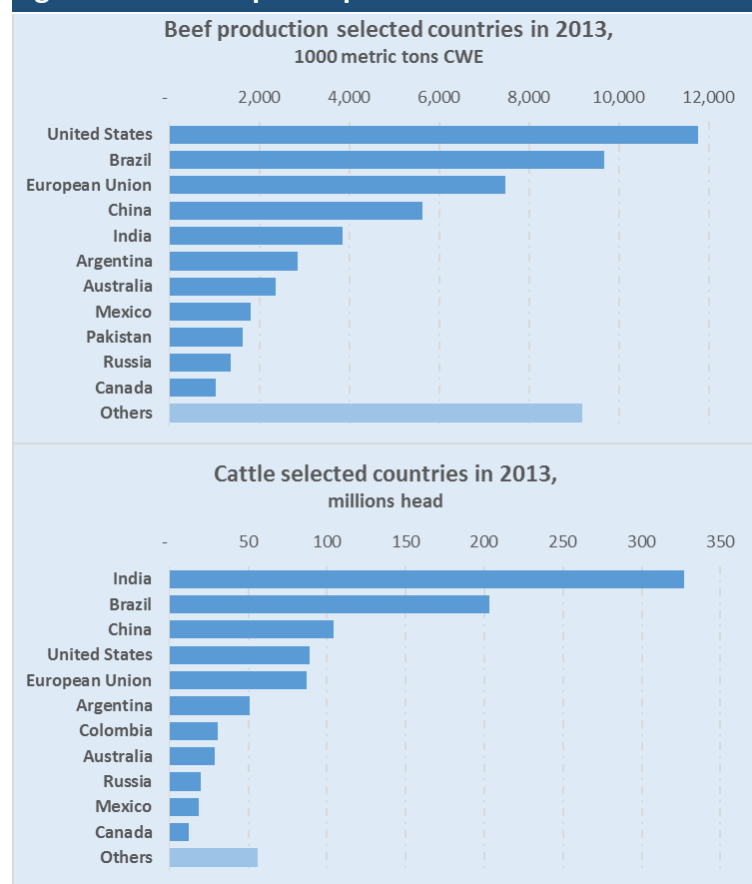
⁴ Botswana 2014: African Economic Outlook. African Development Bank.

⁵ Botswana International Merchandise Trade Statistics No. 2014.01. Monthly Digest. Statistics Botswana. November 2013.

⁶ <http://www.indexmundi.com/facts/visualizations/employment-by-sector/?country=bw>

2.2. GLOBAL BEEF PRODUCTION AND TRENDS

Figure 2: World top beef producers



Botswana is a relatively small producer of beef in the international context.

Figure 2 provides an overview of the top 10 beef producing countries, by size of herd and beef production. The United States Department of Agriculture (USDA) estimates global beef production of 59 million tons Carcass Weight Equivalent (CWE), and world cattle population at over 1 billion head in 2013. The top 10 producing countries account for 84% of production by CWE and 95% of cattle head. The United States is the world's largest beef producer, with 11.8 million metric tons CWE of production, and India, with 327 million heads, has the largest cattle population.⁷

No African country ranks in the top 10 global beef producers. South Africa ranks 13th globally, with a production of 825,000 metric tons CWE of beef and 8 million beef cattle head.⁸ In comparison, Botswana produces around 50,000 tonnes of beef annually⁹

and had 2.2 million¹⁰ cattle head in 2012.

⁷ Livestock and Poultry: World Market and Trade. Foreign Agricultural Service. United States Department of Agriculture (USDA). April 2014. 2013 information.

⁸ www.indexmundi.com. 2013 information for beef production, and 2009 information for cattle heads.

⁹ Based on 2010 estimates from FAO Report

¹⁰ 2012 Annual Agricultural Survey Report. Statistics Botswana. April 2014.

Figure 3: Trends in production of main meat categories

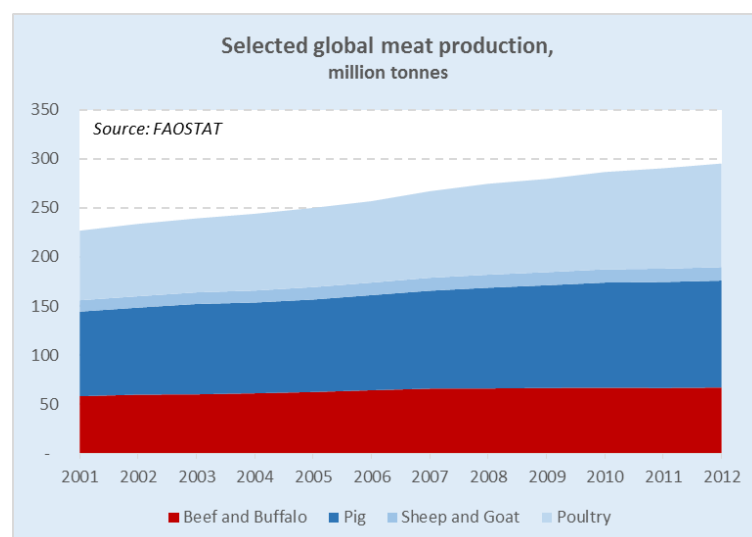


Figure 3 highlights the trends, over the last decade, in the global production of key meat categories.

Of these, beef and buffalo meat account for around 23% of production by weight in 2012, while pig and poultry account for 37% and 36% respectively. In 2001, the relative proportions were 26%, 38% and 31%.

Between 2001 and 2012, global production of beef and buffalo meat increased by 15%, with a compounded annual growth rate (CAGR) of 1.3%. This was relatively modest compared with the increase of 49% (CAGR 3.7%)

in poultry production, and 26% (CAGR 2.2%) for pigs. The rise in prices, and declining popularity of red meat, especially in developed markets, have contributed to this trend. The latter factor is demonstrated in regional trends in beef and buffalo production: Europe showed a decline of 9% in production over the period, while Africa and Asia showed increases of 39% and 37% respectively.¹¹

The USDA also estimates a modest growth in global beef production over the next 10 years, with a compounded annual growth rate of 1.5%, resulting in a world production of 68 million tons CWE in 2023.¹²

USDA statistics may vary from those of other sources, for example the Food and Agricultural Organization (FAO). Significant differences in data identified between sources of information have been highlighted in this report.

2.3. EVOLUTION OF BEEF PRODUCTION IN BOTSWANA

The FAO Report provides a comprehensive account of the development of Botswana's beef sector since pre-independence. Cattle has historically been, and remains to a large extent among smaller communal farmers, the main form of wealth and a safety net, providing milk, draught power, and a source of emergency funds through sales. The colonial government (1889-1966) undertook a number of initiatives, including drilling boreholes and improving veterinary services to support the growth of the sector. In 1952, an abattoir was opened in Lobatse in order to diversify exports of live animals away from South Africa and encourage processed beef exports to the British market. The Lobatse plant, now owned by the Botswana Meat Commission (BMC), remains the largest beef processing facility in the country.

¹¹ FAOSTAT

¹² <http://www.ers.usda.gov/data-products/international-baseline-data.aspx#45167>.

At independence in 1966, cattle rearing was probably the most important contributor to the economy, with 1-1.3 million head, the sector's contribution to GDP at an estimated 40%, and beef exports being the country's main source of foreign currency. Around this time, some commercial farms existed, and the private ownership of boreholes, once allowed, reinforced this trend. This dual system of communal and commercial beef farming has intensified and prevails to this day. The BMC was created in 1965 to promote the livestock industry; interests of livestock producers in particular; slaughtering cattle at the highest price and lowest cost; and exporting the sector's products. It was also required to distribute any surpluses of revenues over costs to the livestock producers. A contingency reserve fund was created to absorb fluctuations in prices and provide for long-term investment.

Between the mid-1970s and mid-1980s, various trends and government actions benefited the sector and led to its strong performance. The 1975 Tribal Grazing lands Policy (TGLP) allowed easier fencing and creation of commercial ranches, which came to account for 30% of the national herd. Various trade agreements with the EU, including the Lomé Convention (1976), the Cotonou Agreement (2003) and an Interim Economic Partnership Agreement (IEPA) since 2009. The 1975 to 1984 period saw strong growth in exports, which came to dominate the beef value chain. BMC was able to get consistent supplies of beef, enabling it to utilize its processing capacity effectively.

The beef sector started facing severe problems from 1984, caused by a number of factors including inefficiencies at BMC; a distorted flat-rate cattle pricing system operated by BMC that did not reflect market prices and therefore led to seasonality in supplies; farmers not being able to meet BMC quotas, leading to sourcing from a small number of large farmers with holding grounds near Lobatse; and BMC facing higher producer prices, input costs, taxes and exchange rate losses. The inherent conflicts in BMC's dual role: that of seeking to become a competitive producer and exporter of beef whilst meeting its social responsibility of offering high prices to a wide range of often inefficient farmers became more apparent in this period. The problem was intensified with the 1967 discovery of diamonds and the relative decline in importance of agriculture, as well as due to migration from rural areas to urban ones. With increasing income, domestic demand for beef also increased rapidly, leading to the development of local municipal and private abattoirs competing with BMC for supplies, further reducing its efficiency and capacity utilization. By the early 2000s, the local channel accounted for half the animals being sold for slaughter. Urban migration has also led to an increase in absentee farmers, who are employed in cities and passively manage their cattle holdings, often not implementing modern farm management practices.

Until the 1990s, there was also the issue of the GATT license, which gave the impression that the BMC London office was achieving good returns for BMC produce. However, as the value of the GATT license fell significantly over subsequent years, it became apparent that BMC was not aggressively promoting its brand and selling produce in more profitable channels in the EU.

A combination of falling prices paid by BMC and the rise of absentee-owners caused a decline in profitability in the industry and has led to a negative cycle of decline in cattle breeding and infrastructure, increasing environmental degradation and lower and more variable production. The government and BMC have introduced a number of initiatives to address many of the challenges in the sector, which are outlined in Sections 4 and 5.

2.4. GLOBAL EXPORT AND IMPORT MARKETS IN FRESH, CHILLED AND FROZEN BEEF

World beef exports

Table 1: Top 10 global fresh, chilled and frozen beef exporters

Fresh and chilled				Frozen			
	Country	2013 Exports US\$m	2004 Rank		Country	2013 Exports US\$m	2004 Rank
	World	21,189			World	21,238	
1	United States	2,929	8	1	Brazil	4,504	2
2	Netherlands	2,641	1	2	India	4,411	6
3	Ireland	1,901	5	3	Australia	3,267	1
4	Australia	1,771	2	4	United States	2,310	16
5	Germany	1,649	4	5	New Zealand	1,505	3
6	France	1,225	6	6	Uruguay	940	4
7	Poland	956	17	7	Paraguay	771	15
8	Brazil	855	7	8	Argentina	337	5
9	Canada	837	3	9	Nicaragua	289	18
10	Belgium	780	9	10	Canada	271	17
Share of top 10		73%	81%	Share of top 10		88%	80%

Sources: ITC calculations based on UN COMTRADE statistics.

The total value of frozen and chilled beef exports in 2013 was US\$42.4 billion¹³. The export market is broadly equally divided between frozen and chilled varieties. Beef exports have increased significantly since 2004, when the world total was US\$18.7 billion. Frozen beef exports have increased particularly strongly since 2004, when they accounted for only 40% of the total.

Table 1 highlights the top 10 exporters of both the chilled and frozen varieties. Most of the movement in ranking in chilled beef between 2004 and 2013 has been within the top 10, although frozen beef has seen a number of producers, such as Paraguay, Nicaragua and Canada, entering it over the period. The United States has shown strong climb in rankings both in the chilled and the frozen varieties.

With frozen beef exports of US\$75.4 million in 2013, Botswana ranked 22nd in the category (25th in 2004), and the country exported US\$41.2 million of chilled beef in the same year, ranking it 28th (23rd in 2004). The recent EU problems, highlighted later in this report, have led to a switch from the more profitable chilled to less commercially attractive frozen varieties. For example, in 2010, the year before the EU exit, Botswana exported US\$97.8 million of chilled beef and US\$60.6 million of frozen. With total exports of US\$116.6 million, Botswana had a world export market share of less than 0.3%.

In terms of volume, total world exports of beef in 2013 were 8.7 million tons, of which frozen beef accounted for 61%. The top exporter in terms of quantity is India, with 1.6 million tons of mainly frozen beef. The top four countries, which also include Brazil, Australia and the United States, account for over 50% of world beef exports by quantity.

¹³ Unless otherwise stated, we have used ITC Trade Map information, which is based on UN COMTRADE statistics, throughout this section.

In comparison, in 2013 Botswana exported 20,376 tons of frozen beef, giving it a rank of 20 in that segment, and 6,470 tons of chilled beef (rank 33). Its overall rank by volume of beef exports was 26th.

World beef imports

Table 2: Top 10 global fresh, chilled and frozen beef importers

Chilled				Frozen			
		2013 Exports US\$m	2004 Rank			2013 Exports US\$m	2004 Rank
	World	20,418			World	21,154	
1	Italy	2,347	1	1	Russia	2,448	2
2	Germany	1,874	6	2	Hong Kong	1,978	15
3	Netherlands	1,612	8	3	United States	1,953	1
4	United States	1,597	2	4	Viet Nam	1,896	105
5	France	1,515	4	5	Japan	1,275	3
6	Japan	1,454	3	6	China	1,202	60
7	United Kingdom	1,197	5	7	South Korea	1,066	4
8	Canada	933	16	8	Venezuela	868	35
9	Mexico	864	7	9	Egypt	835	8
10	Chile	724	12	10	Israel	477	176
Share of top 10		69%	82%	Share of top 10		66%	82%

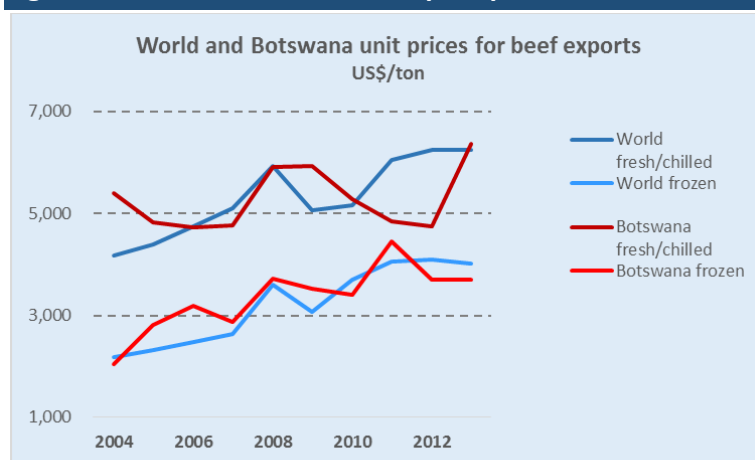
Sources: ITC calculations based on UN COMTRADE statistics.

Table 2 highlights the top 10 importers of chilled and frozen beef. There are some differences between world export and import totals due to reporting and estimation errors. The data shows an increasing diversification of export markets over the last decade, with the share of top 10 importers falling from over 80% to less than 70%. The trend is particularly evident in the frozen beef segment, with a number of previously very low volume importers entering the top 10 since 2004.

The data presented previously shows gross export and import information. In practice, a number of countries both export and import beef, exporting low value beef and importing premium quality (usually in more developed economies), or vice versa in less developed ones. For example, in 2013 the United States exported US\$6.8 billion of beef, and imported US\$3.6 billion. Other such large active traders in the top 10 exporters and importers are the Netherlands, Germany, Italy and Canada. This practice is an important consideration for Botswana going forward.

Unit prices

Figure 4: Trend in world beef export prices



Source: ITC calculations based on UN COMTRADE statistics

Figure 4 presents the key trends in the world fresh and chilled as well as frozen beef prices over the last decade. Overall, prices have shown some increase over the period, with chilled beef prices increasing from an average of US\$4,183 per ton to US\$6,257 per ton between 2004 and 2013, and frozen prices from US\$2,184 to US\$4,027 per ton over the same period. The 2007-08 global economic crisis contributed to a fall in unit prices, which have recovered strongly since then. Botswana's unit export values have kept in line with the above trend, other than for 2011 and 2012 when it

lost access to the EU market. In the latter period, the majority of BMC beef was diverted to South Africa at a lower price. A significant proportion was also sold in the domestic market, causing disruption and adversely affecting local processors.

Nevertheless, Botswana's beef, being predominantly grass fed and naturally reared, is a high quality product and would be expected to command a substantial premium. For example, the FAO Report highlights that high quality grass fed beef can command twice the price of grain fed varieties. Even at the average unit price level of comparison in the fresh and chilled category, in 2010 before the EU ban, Botswana's unit export value was US\$5,278 per ton. This was higher than the world average of US\$5,172, but the equivalent unit export values were US\$5,437 for Namibia, US\$5,543 for South Africa, US\$6,008 for Brazil and US\$7,263 for New Zealand.

Expected future demand

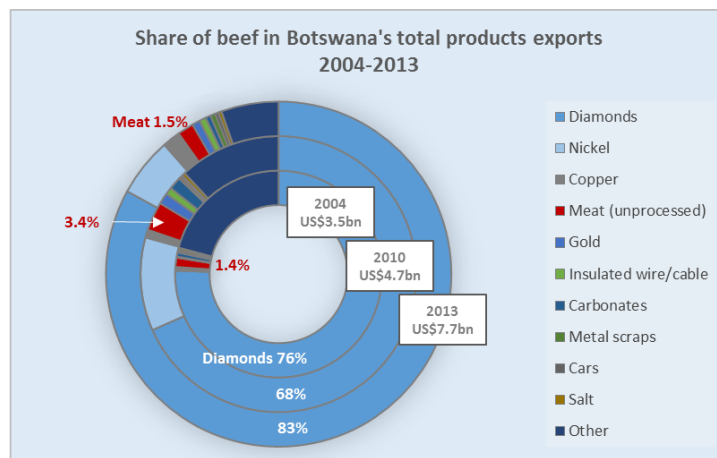
The longer-term outlook for beef demand is positive. Growth in demand is principally expected to come from developing countries, with rising populations and incomes. Demand for animal protein is expected to rise three times as fast in developing countries than in developed ones. Net trade in beef has been expected to increase by 1.5 to 2 million tons between 2011 and 2025, with price increases of between 20% and 30% over this period, with such increases concentrated in the earlier years.¹⁴

¹⁴ FAO Report, citing various sources.

2.5. BOTSWANA'S BEEF EXPORTS

Figure 5: Share of beef in Botswana's exports

Beef is expected to, and can potentially play, an important role in Botswana's EDD ambitions. As Figure 5 shows, meat's¹⁵ share in the country's total merchandise exports between 2004 and 2010 more than doubled from 1.4% to 3.4%. However, it has since fallen to 1.5% in 2013. As highlighted previously, despite its relatively small share of exports, the beef sector's strategic importance lies on its significant impact on the country's rural population.

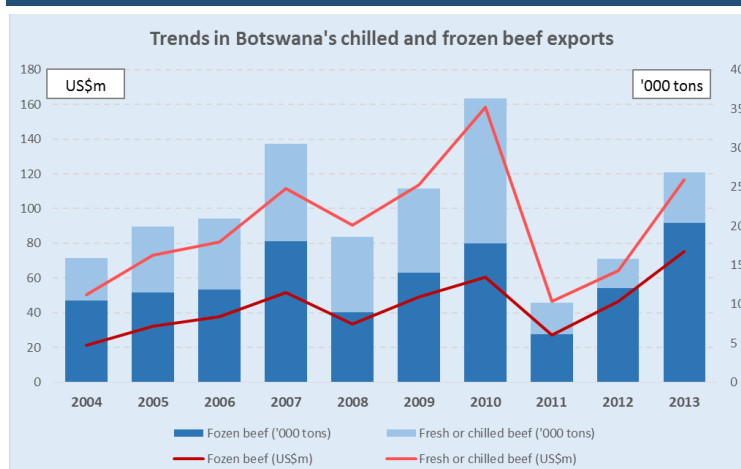


Sources: ITC calculations based on CSO statistics and ON UN COMTRADE statistics until January, 2013

Figure 6 shows the trends in Botswana's frozen and chilled beef exports, in terms of volume and value, over the last ten years. After a period of steady growth until 2007, the global financial crisis contributed to a decline in 2008. Exports continued to increase until 2010, when withdrawal from the EU market caused a sharp fall in exports. The trend has been positive since then, although exports remain below their 2010 (and 2007) levels.

At its peak in 2008, exports of the higher priced chilled beef accounted for 63% of value and 52% of volume. In 2010, at the peak of exports, the proportion was 62% by value and 51% by volume. In 2013, however, the share of chilled beef exports has fallen to 35% by value and 24% by volume, highlighting a deterioration since 2010 of the mix of exports, with the lower priced frozen category now accounting for a larger share. Total exports in 2010 was US\$158.4 million, whereas the figure for 2013 was US\$116 million after having fallen to a low of US\$46.8 million in 2011, showing a strong rebound, but still considerable challenges lie ahead in recapturing lost customers.

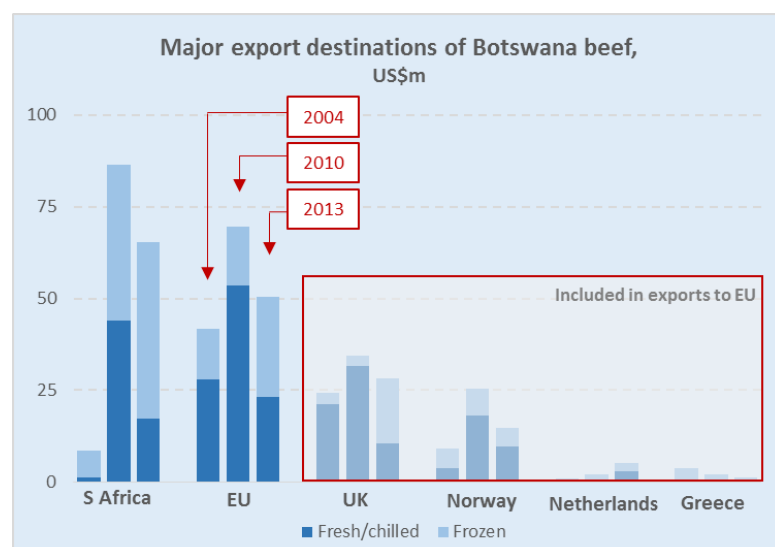
Figure 6: Trends in Botswana's beef exports



Sources: ITC calculations based on Central Statistics Office (CSO) statistics since January 2013, and on UN COMTRADE statistics

¹⁵ Essentially all Botswana's meat exports relate to beef.

Figure 7: Major beef export destinations



Sources: ITC calculations based on Central Statistics Office (CSO) statistics since January 2013, and on UN COMTRADE statistics

Figure 7 highlights Botswana's main beef export markets. The top four markets, South Africa, UK, Norway¹⁶ and the Netherlands, have been consistently so over a number of years. Together they account for 98% of chilled beef exports, 97% of frozen ones and 97% of total beef exports.

In 2013, South Africa accounted for 56% of Botswana's beef exports and 63% of the frozen beef category. In that year, South Africa's total imports amounted to US\$83.6 million. Of this, 82% of imports were of frozen beef, the country having only imported frozen beef previously. Botswana (US\$30.1 million) and Namibia (US\$28.4 million) accounted for 85%

of frozen beef imports. Other main exporters to the country are Australia, Uruguay and New Zealand. Chilled beef was imported almost entirely from Botswana and Namibia, with the latter supplying a higher amount (US\$7.6 million) than Botswana (US\$6.9 million). Competition is expected to intensify in the South African market with the reported entry of Brazilian exporters.

UK is the largest market for Botswana beef outside of South Africa and has been historically and continues to be the most important premium market. At its peak in 2010, Botswana supplied US\$32.5 million of beef to that market, of which US\$30.5 million was higher value chilled produce. Nevertheless, it only had a market share of 2.6%, ranking number seven by exporters. For example, Namibia's beef exports were US\$45.4 million in that year and it had a market share of 3.6%, ranking it number four. Exports to UK have recovered in 2013, but not fully. At US\$23 million it gave Botswana an export share of 1.6%, compared with 2.9% of Namibia. The UK export market for beef is dominated by Ireland, which consistently supplies over half the UK's beef imports.¹⁷

Norway is a key market for Botswana's beef exports, especially as it pays more than twice the prices commanded from other countries. There is limited potential for growth in this market, however, as its annual quota of 1,600 tonnes, which is met, imposes a ceiling.

In addition to these three countries and the Netherlands, Botswana occasionally exports beef to some countries in the region and Sub Saharan Africa, including Angola, Namibia, Zimbabwe and Zambia. Exports are also made to other European countries including France (which stopped after 2010 and has never resumed), Greece, Cyprus and Belgium. However, such sales are of very small quantities and not sustained over a long period.

¹⁶ Exports to Norway are initially exported to Germany for testing and then re-exported to their destination. As a result, they show as exports to Germany in trade data. Re-exports from Germany to other countries are understood to be negligible. However, data suggests that a significant proportion of exports to Germany are in fact sold in the local market, especially if they do not meet all Norwegian criteria, or if they arrive late.

¹⁷ ITC calculations based on UN COMTRADE statistics.

The EU market is the most important export market for Botswana beef, given the premium prices it pays, and the preferential access enjoyed there by the country's exports. EU however enforces very strict regulations, which impose considerable costs on the domestic beef value chain. The market is also becoming more competitive for exporters such as Botswana, as the advantages of preferential access granted under the IEPA (which are quota-less and tariff-less) are being eroded by similar provisions in other bilateral and multilateral agreements EU enters into, for example with MERCOSUR countries, albeit with quotas of 300,000 tonnes.¹⁸ Nevertheless, an added advantage of having access to EU markets is that the recognition it offers is an important precondition for exporting to other countries, especially in the Middle East. These advantages are offset by the significant costs added to the beef value chain and its supporting infrastructure by the need to comply with stringent standards, which have been tightening over an extended period as the EU responds to its consumers' concerns and reacts to unfolding crises.

The cost-benefit of access to the EU market is heavily debated. Nevertheless, a recent study concluded that there is a net social benefit in continued access to the EU market, although that conclusion is highly dependent on the price that can be realized on beef exports.¹⁹

2.6. IMPLICATIONS FOR THE BEEF VALUE CHAIN

The analysis in this section suggests the following:

- Botswana is a relatively small producer and exporter in global terms, and lacks the scale to compete on volume.
- The pricing realized for beef exports has a high potential for improvement.
- The high concentration on a limited number of markets poses risks, as was evident from the sharp drop in revenues as a result of the EU ban.
- Nevertheless, the EU market is a strategically important one, as access to it also acts as a prerequisite for entry into many other markets.
- Demand for beef in developed markets are static or declining, while those in developing countries are increasing. In the medium to long-term, these markets offer higher potential for growth.
- Beef's contribution to Botswana's exports is relatively small, as is its share of GDP. There is potential for improving on this, but the real strategic importance for the sector in the medium-term is the contribution it can make in improving livelihoods in rural areas.

¹⁸ Botswana Development Policy Review: An Agenda for Competitiveness and Diversification. World Bank. September 2012.

¹⁹ Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

3. THE BEEF VALUE CHAIN

3.1. INTRODUCTION

Botswana's beef value chain is complex, involving a range of actors and channels, with diverse objectives and needs. The export segment of the value chain is dominated by BMC, which accounts for around half of the country's beef processing and is Botswana's sole beef exporter. Beef production is segmented into a large number smaller of communal farmers, which account for almost 90% of the cattle population, and a small number of usually more commercially operated cattle farms. Outside BMC, processing is also very fragmented. The support environment is relatively weak and uncoordinated and Botswana beef does not have any branding despite its premium quality.

This section highlights the key trends in the various parts of the sector's value chains and the main bottlenecks in each area. For the value chain mapping, this study has drawn heavily on the comprehensive work done on the beef value chain by the FAO and MOA, as presented in the FAO Report.

3.2. BEEF VALUE CHAIN MAP

Figure 8 in the following page provides an overview of the main components of the beef value chain in Botswana, which has drawn on the FAO Report. The two broad channels, aimed at the export and domestic markets respectively, are evolving continuously.

Farmers sell their cattle either directly to processors, to local butchers, or to agents or speculators at kraals²⁰ in marketing centres on pre-announced days. For the export markets, BMC buys directly from farmers, or through agents, and sells to export markets. At present, almost all its entire exports are made through a UK-based company called GPS Food Group (GPS). Beef is sold in the local market through the larger grocery chains, which often outsource their meat retail activities to local companies. Such retailers buy their meat from processors, some of them part of the same group of companies. Most of the remaining meat is sold directly by butchers.

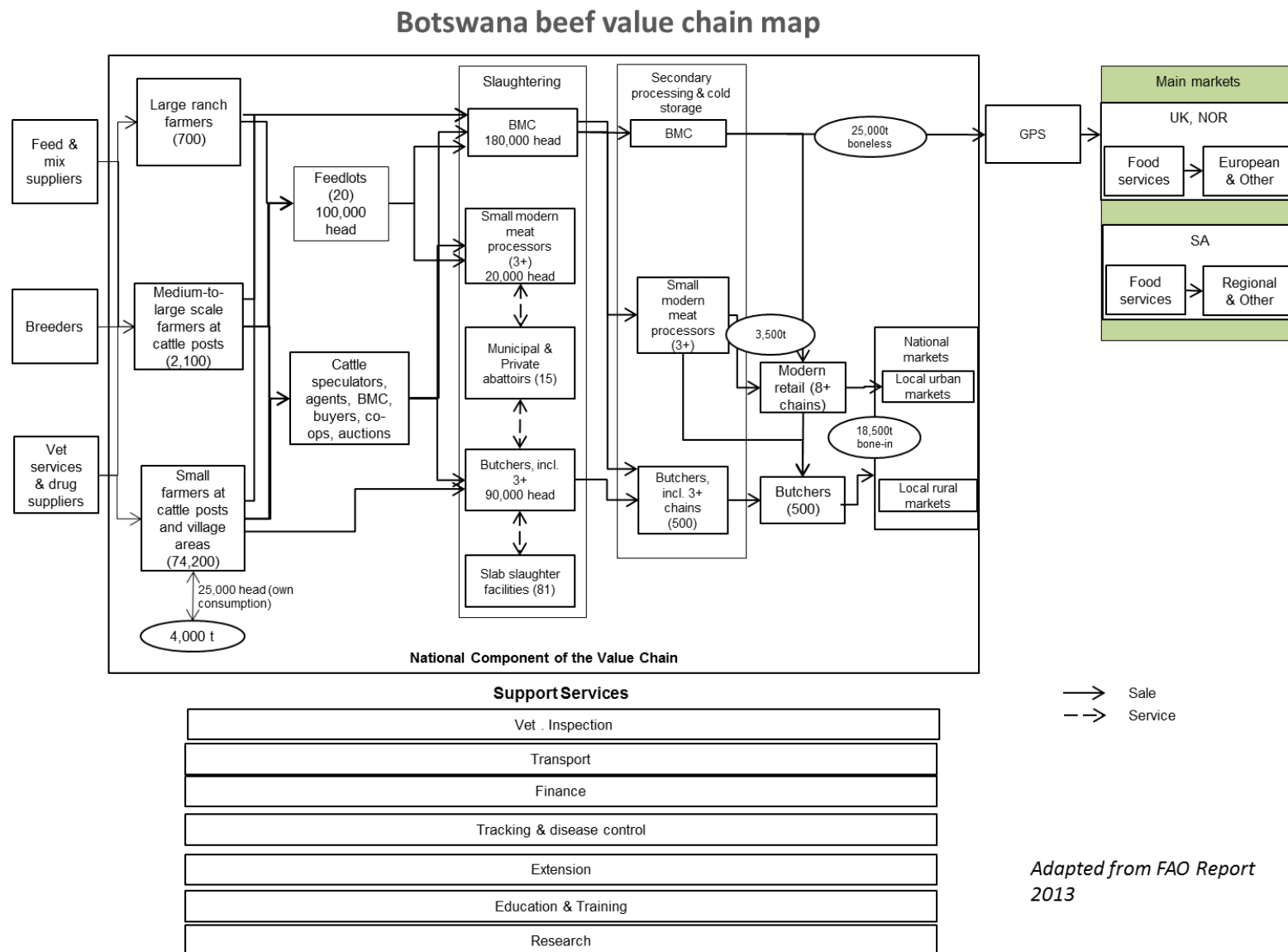
The main inputs are natural grass from pastures or feed, most of which is imported from South Africa. There is one prominent local supplement manufacturer, but most supplements are also imported. Another main input is fuel. There are a small number of breeders offering bulls. The need to import a significant proportion of the sector's inputs materially increases its relative costs of production while increasing vulnerability to external supply shocks.

Local transport for the sector, particularly needed for transporting cattle to slaughterhouses, is generally provided by the larger farms themselves; processors; agents or speculators; municipal authorities; or a large number of independently owned truck or van operators. Processors usually transport meat to retailers in their own vans. BMC exports through a warehouse in Cape Town.

DVS is the main support provider to the sector, through its extension agents and Livestock Advisory Centres. The MOA is also a key provider of support, including training and research.

²⁰ Cattle enclosures

Figure 8: The beef value chain



The FAO Report estimates that in 2010:

- There were 700 large ranch farmers; 2,100 medium- to large farmers; and 74,200 small farmers at cattle posts and village areas.
- There were around 20 feedlots accounting for 100,000 head of cattle.
- 180,000 head of cattle, representing 28,000 tonnes of boneless beef, moved through the BMC export channel. Of this 25,000 tonnes was exported and 3,000 tonnes came back into the domestic market.
- An estimated 111,000 head, representing 19,000 tonnes of beef, was processed through the domestic channel. Together with 3,000 tonnes of BMC beef therefore, the local market was estimated at 22,000 tonnes, marginally lower than the export market.
- In addition, 25,000 head of cattle (representing 4,000 tonnes of boned beef) were slaughtered by farmers for their own consumption.
- Although there are a large number of small suppliers to BMC, the supply is very concentrated and 64% of supplies came from the top 78 suppliers. The study estimates that 15% of BMC supplies originate in ranches and 85% in communal areas. Approximately 50% of BMC supplies came from communal holders of less than 150 cattle, 60% as weaners and 40% as oxen.
- For the domestic channel, there were around 500 butchers in the country and three registered cold storage, cutting and processing plants.
- There were 100 registered slaughtering facilities handling red meat, including seven linked to processing chains and 12 municipal abattoirs. There were 81 registered private rural slaughter facilities and slaughtering slabs. Over time, such slab butcheries are expected to be upgraded to abattoirs, or they are expected to be shut down.

The following analysis is based on more updated numbers where available, in particular those derived from the Central Statistical Office (CSO) Annual Agricultural Surveys.

3.3. PRODUCTION

Cattle population distribution and trends

Figure 9: Botswana cattle population trends

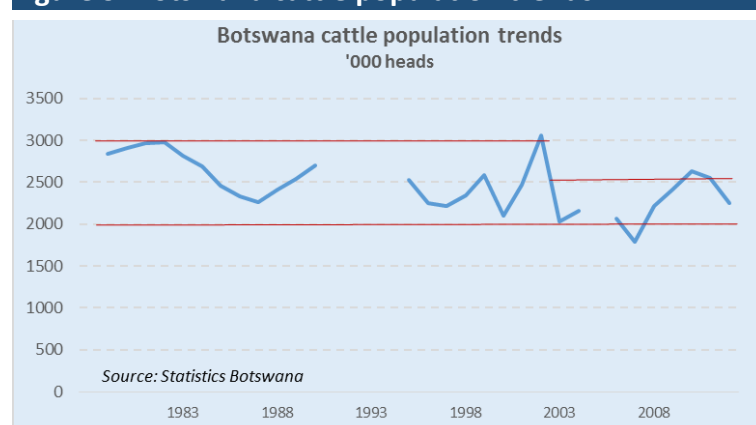


Figure 9 shows the trend in cattle head in the national herd since 1979, as published in the Annual Agricultural Surveys.

The chart shows a cyclical declining trend, with weather conditions (droughts or low rainfall reducing prices as farmers sell cattle of relatively poor quality, while rainfall raises prices as farmers hold on to cattle and grow them) and economics (higher prices increasing supply, as it happened

with an increase in BMC prices in 2006; and increasing income in other occupations reducing the attractiveness of livestock farming) playing major roles.²¹ Overall, since a peak of 3 million in 1980/81, there has been relative decline in the national herd, which now ranges at between 2 and

²¹ Final Report of the Special Select Committee of Inquiry on the Botswana Meat Commission and the Decline of the Cattle Industry. February-August 2013. Draft.

2.5 million. It is estimated that a herd beyond 3 and 3.5 million is unsustainable in Botswana due to a combination of irregular rainfall patterns, limits of grazing land and relatively frequent outbreak of cattle diseases.

Botswana typically experiences droughts in ten-year cycles and there have been no major droughts in recent years. Nevertheless, rains came late in 2011-2012 and the dry spell affected cattle production. 2013 was a year of severe drought, fitting in this 10-year cycle.

Figure 10: Geographic distribution of cattle²²

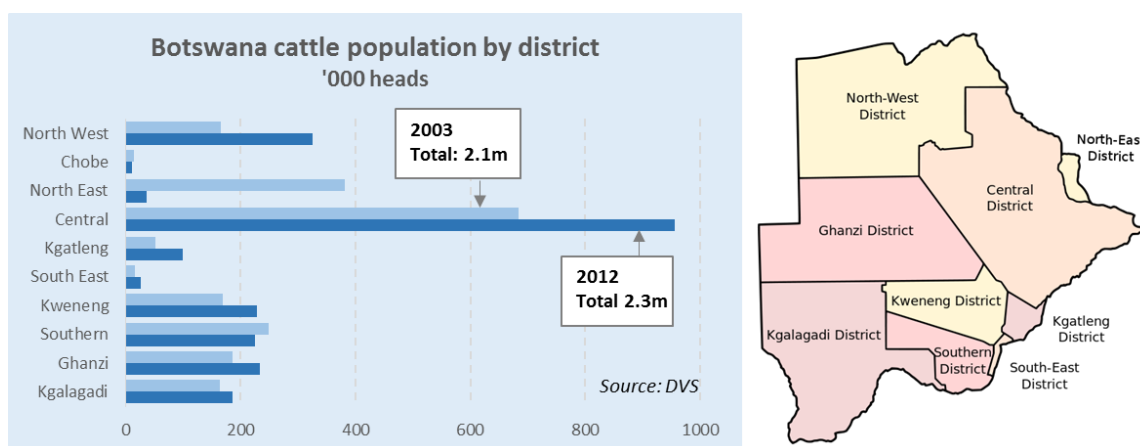
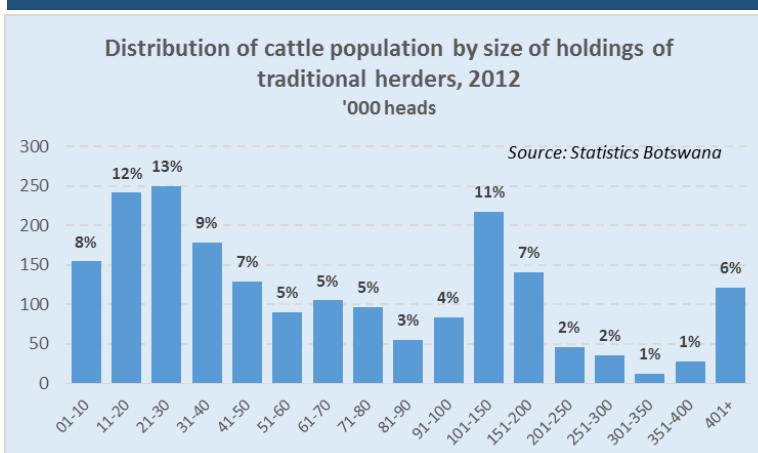


Figure 10 provides the regional distribution and trends in the cattle population. The Central District accounts for 41% of the cattle population. It and the North-West District, the second most populous in respect to cattle, account for 54% of cattle head. In contrast, the centrally located Chobe District, in a FMD declared zone, has relatively negligible cattle population. Variations in regional cattle population between 2003 and 2012 have been caused by: increase in cattle in the North West as a result of there being a limited market until BMC Maun abattoir was refurbished in 2010, which even now has relatively low capacity (23,000 head per annum); sharp reduction in the North East because of a large culling of cattle as a result of FMD outbreak; and increase in Central region because BMC stopped buying cattle from these areas when Francistown abattoir was shut down, and also from restocking by new farms and ranches.

The FAO Report states that cattle farmers operate in 333,000 km² of pasture land, 80% of which is occupied by communal farmers.

In 2012, 88% of Botswana's cattle population of 2.25 million was held by traditional²³ farmers in communally held pastoral land. The balance was held in what the MOA defines as commercial farms: usually fenced or otherwise enclosed spaces in freehold, leased or

Figure 11: Cattle distribution by holding



²² Map source: http://en.wikipedia.org/wiki/Districts_of_Botswana

²³ The terms traditional and communal have been used interchangeably in this report.

TGLP farms. Most of these would be operated using modern husbandry and commercial management practices, but some, such as those held by many absentee farmers and especially TGLP farms, practice more traditional farming methods albeit in a fenced environment. There were 72,116 traditional holdings, and 809 commercial farms, with holdings averaging at 27.5 for communal farmers and 324 for commercial farms. Commercial farm numbers almost doubled since the early 2000s, although they have declined from their 2010 peak of 1,058, as profitability in the sector has eroded. Figure 11 illustrates that a significant number of cattle being held by small traditional farmers: 49% were held in holdings of 50 or less, and 81% in holdings of 150 or less.

The 2012 Annual Agricultural Survey found that in the traditional sector 25% of cattle and 35% of holdings were female-owned. Moreover, 78% of traditional holdings were owned by farmers aged 50 or over, and 38% by farmers over 65. The equivalent proportions for traditional cattle ownership were 80% and 38%. There were an estimated 121,766 cattle holders in the traditional sector.

The survey also found that only 11,139, or 15% of all traditional holdings relied on livestock farming as their main source of income.

Communal farming²⁴

Communal farmers graze their cattle in open pastures that are communally owned and managed. They are divided into cattle post area (CPA) farmers, who operate in unfenced areas with one or more boreholes, away from settlements or towns; and village grazing area (VGA) or *peri* urban farmers, who graze from the village or surrounding area. The FAO estimated that in 2010, there were approximately 2,100 medium-to-large CPA farmers with a holding of 150 or more, many with operations similar to commercially managed farms, although without fencing. There were an additional 14,000 to 15,000 smaller scale CPA farmers with herds of less than 150. CPA farmers managed around 60% of Botswana's cattle in 2007, divided roughly equally between smaller and medium-to-large CPA farmers.

There were an estimated 60,000 VGA farmers in 2002, with their numbers declining as their land is increasingly lost to fenced farms and cattle posts. They are mainly subsistence or hobby farmers, relying on additional income from alternative sources. They do not purchase feed or supplements, and usually slaughter cattle when they have cash needs. VGA farmers are estimated to manage around 30% of Botswana's cattle. They hold an average of 14 cattle, and are unlikely to be commercially sustainable. VGA practices can potentially lead to overgrazing, land degradation and bush encroachment. VGAs have been losing land to fenced farms and cattle-posts as well as to expanding villages and urbanization and other competing land use activities such as mines, roads, dams, etc.

Commercial farming

Also known as ranches, these are usually large commercially operated farms operating on fenced freehold or leasehold land, with exclusive rights to grazing resources. Their share of the national cattle herd has fallen from 30% in the 1980s to 12% in 2012, primarily due to reducing profitability. Some cattle farms and ranches have been converted into game farms and ranches to attract tourists, who often offer greater income. These farms have been increasingly moving to weaner based production, some with their own feedlots. This shift is reflected in their superior breeding and off-take performance, but also in higher costs.

²⁴ This and the following subsections of Section 2.3 are summarised from the FAO Report.

Feedlotting and weaner based production

The government and BMC started to actively promote the weaner based system in 2006. The system is intended to overcome shortcomings associated with traditional farming approaches that lead to holding cattle until they lose their fertility, and the resulting reduced meat quality and carcass weight. In the weaner based system, calves are weaned at seven months of age. They are then reared in the range until they are around 15 months old and then moved to feedlots for 90 to 120 days for fattening. In addition to generating more consistent quality, releasing grazing resources, and reducing seasonality of supply, feedlotting increases births as calves are weaned off their mothers early. The practice is also consistent with EU export requirements, requiring inter-territorial traceability of at least 90 days, and location of cattle in an approved holding within a territory for at least the 40 days preceding slaughter. Nevertheless, there are additional costs associated with feedlotting, including in particular the high cost of supplying imported feed of grain, straw and premix. These limit the commercial attractiveness of feedlotting. In addition to costs, risks of importing key supplies exist, as they were realized when a 2011 FMD outbreak in South Africa led to an import ban on feed from that country. Consumers in Europe are increasingly averse to feedlot production methods, given their negative associations with animal welfare and the environment. Additionally, farmers selling their cattle as weaners do not realize the best value at the relatively young age.

The BMC has led the practice of feedlotting, partly to reduce the seasonality of the throughput in its abattoirs, and also to improve the consistency of the quality of its supplies. Its Large Scale Feed Advance Scheme to promote the system had limited uptake and in 2008 it introduced a direct cattle purchase scheme (DCP). After various permutations of the DCP, the BMC currently buys only male weaners meeting EU requirements, and places them in contracted feedlots, near its Lobatse and Francistown plants, until slaughter. The contractors charge a margin on inputs and a standing charge for the animals.

In addition to six BMC feedlots in 2010, there were also 14 registered private feedlots, selling their output to BMC and other large processors. The FAO estimates that in 2010 around 100,000 cattle were produced under the weaner system, 55,000 of which went to BMC.

The total cattle purchased through the DCP scheme and slaughtered from feedlots at BMC increased from 31,235 in 2009 to 55,272 in 2010. Partly due to the suspension from the EU markets, these numbers fell to 23,829 in 2011 and 30,729 in 2012.²⁵

In 2013, the total throughput from feedlots increased significantly to 127,147. Of these, 41,284 head (32%) came from BMC feedlots and 58,142 head (46%) were purchased from communal farmers.

²⁵ Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

Destination of cattle produced

Figure 12: Cattle sales by type of buyer



Figure 12 presents the major purchasers of cattle produced in Botswana. In 2012, of the 168,035 cattle sold, 41% went directly or indirectly to BMC. Although feedlot sales account for only 7% overall, commercial farms sell 21% of their cattle as weaners. The increasing importance of feedlots is evident from the fact that in 2007, they accounted for only 1.5% of overall cattle sales, and 4.4% of commercial farm sales. Local butcheries of various sizes are important customers of cattle farmers, and account for 38% of traditional farmer sales, compared with 16% of those of commercial farms.

BMC data suggests that in 2013, 22% of its direct supplies came from five farmers who supplied more than 5,000 head. A further 16% came from 9 farmers who supplied between 1,000 and 5,000 head. At the other extreme, 33% of supplies came from almost 9,900 farmers supplying less than 20 head of cattle.

Pricing

BMC sets the benchmark price for cattle in the sector, based on export parity prices (EPP). Prices are benchmarked weekly with those relayed by the Red Meat Abattoir Association of South Africa, less an imputed cost of transportation. Currently BMC employs a market value based pricing formula linking product price by market to the price paid to producers. There is a move to migrate back to EPP and integrate this formula. From 2008 -2012 BMC was using the RSA-linked EPP. Prices paid by BMC vary with quality, with cattle eligible for EU exports commanding the highest prices. There is a subsidy embedded in the pricing, with lower-than-market prices paid for EU eligible cattle being used to subsidize cattle ineligible for EU exports. Prices paid for "red-zone" cattle is on average 80% of that paid for that from the green zone. Local butchers and processors typically price their supplies at around a 10% discount to BMC prices. Farmers are usually prepared to accept the latter given the lower risk of costs associated rejection or downgrading from BMC, quicker cash payments and lower transportation costs.

BMC prices are based on cold dressed mass (CDM) weight and quality. Carcasses are graded based on quality (Prime, Super, and Grades 1-3²⁶), with younger animals weighing more than 200kg and less than 27 months-old getting the highest grade. The FAO study suggests that the difference between the price paid for a live-weight based weaners and CDM-based prices for slaughter-weight cattle is relatively narrow, encouraging farmers to sell their cattle as weaners, whilst probably making feedlotting unprofitable. This arguably favours commercial farmers, who disproportionately sell their cattle as weaners.

²⁶ Prime, Super and Grade 1 are eligible for EU exports,

In 2013, for example, the BMC Lobatse plant paid a price of P24.2 per kg for carcasses for EU eligible beef. The equivalent figure for non-EU beef was P17.6. The average sales revenues were P70 and P36.7 per kg respectively.

Figure 13: Average prices realized by traditional and commercial producers

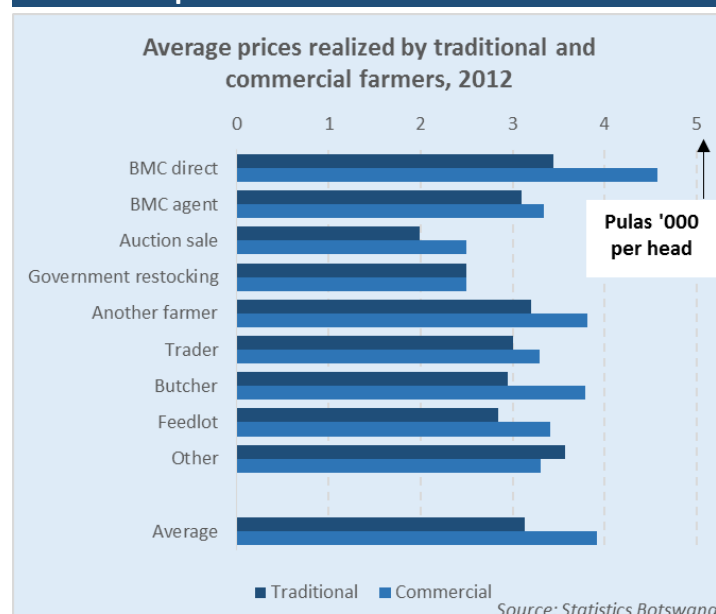


Figure 13 highlights that generally commercial farmers tend to achieve higher prices than their traditional counterparts. The gap in prices can be as much as one-third for sales to BMC, principally reflecting quality differences. BMC offers the highest prices to producers on average.

The average price realized by traditional farmers in 2012 was P3,136 per head, compared with P3,916 for commercial farmers. Their total cost of production (excluding capital costs) were estimated at P2,930 and P3,266 respectively.²⁷

Cattle diseases

The 2012 Annual Agricultural Survey highlights Anthrax, Black Leg, Brucellosis and Botulism as being the most common cattle diseases in the traditional segment. 9,949 holdings, representing 14% of total traditional holdings, were reported to have cattle routinely vaccinated against FMD. Almost 50% of FMD affected holdings were in the Maun region, which accounted for 7% of all traditional holdings in the country.

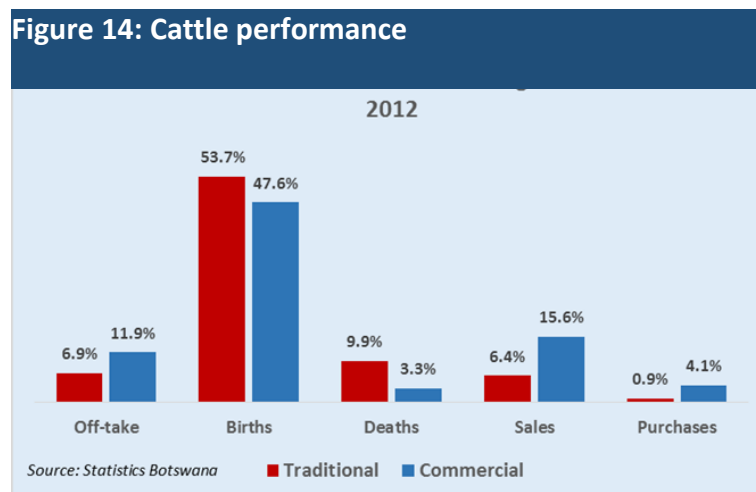
FMD and measles-related issues are discussed in more detail in Section 4.2.1.

²⁷ 2012 Annual Agricultural Survey Report. Statistics Botswana. April 2014.

Production performance and profitability

There are significant differences in production performance between the communal and commercial farmers in Botswana and those between Botswana producers on average and those in competing countries.

As Figure 14 illustrates, there is a substantial gap in performance between traditional farmers and commercial farms, with this shortfall being wider still in the case of the best, professionally managed ranches. Offtake rates of commercial farms, a key determinant of profitability, are almost twice those in the traditional segment, whilst death rates fall to a third. An anomaly in this comparison is the higher birth rate in the traditional sector, which could be as a result of factors such as breed dynamics.



The comparison in performance is starker when considering other beef exporters. For example, the FAO report highlights that Botswana's overall off-take rate of 12% compared unfavourably with those of Namibia (20%), Brazil (18%) and Australia (24%). Although restrictions, such as those on hormone use, limit off-takes in Namibia, it is reported that some commercial farms in that country reach off-take rates of around 20%.

Table 3: Model of performance potential in cattle production

The FAO Report suggests that changes in the production system, such as those from oxen to weaners and from traditional to holistic management could increase herd sizes, the proportion of adult cows and therefore calving rates, and reduced mortality. FAO calculates (see Table 3) that based on realistically achievable production parameters, Botswana could double its beef production based on roughly the same number of livestock units and therefore land area. Nevertheless, the report stresses the need for further research into the economics and ultimate profitability of moving to more intensive weaner-based methods, especially given the increased demand for high cost imported feed that would imply. The wider trend in developed markets away from feedlot produced beef also needs to be considered.

	2010 Oxen + weaner	Future Expanded weaner system
Herd size	2,700,000	3,000,000
Mature livestock units	1,944,000	1,980,000
Breeding cows (%)	40	45
No. of breeding cows	1,080,000	1,350,000
Calving rate (%)	55	65
Calves born	594,000	877,500
Mortality (%)	9	6
Net herd increase	297,500	644,850
No-growth off-take (%)	11	21
Potential beef production	45,821,160	99,306,900

Source: FAO Report

The FAO Report provides detailed analysis in an attempt to establish the profitability of the different livestock production systems practiced in Botswana. Based on various modelling assumptions, it finds that cattle production is generally profitable in gross terms at the farm level. However, when capital costs and especially the opportunity cost of investment in cattle holdings is taken into account, the result turns negative. The analysis also finds that the costs involved in implementing improved farming practices are not offset by the returns from increased production. Additional incentives, such as increased prices would be necessary to provide a return on such investment. The analysis also found that profitability is positively correlated with increasing economies of scale and farm sizes. Finally, the profitability of feedlotting was found to be very marginal and highly sensitive to changes in input prices. The report recommends detailed research into the economics of cattle production in Botswana, highlighting that its conclusions are based on modelling assumptions and that some stakeholder feedback had suggested that some of its conclusions might be over-conservative.

3.4. PROCESSING

Slaughtering

BMC has the largest slaughtering capacity in Botswana. Its total optimal capacity of 1,100 head per day is accounted for by its three plants in Lobatse (650 head per day), Francistown (350) and Maun (100). In international terms, this slaughtering capacity is still relatively small. For example the world largest processor, JBS SA of Brazil, has the capacity to process 26,000 head a day.²⁸

BMC's maximum capacity is 286,000 cattle per year, with an expectation that its plants would operate at 85% capacity on average. The numbers of cattle supplied to BMC fell from 70% of capacity in the 1980s to 40% in 2005, increasing to 63% in 2010. DCP and feedlotting initiative and also improved prices contributed to this late rebound. However, increased demand from domestic butchers has also been an important limiting factor.

In addition to BMC facilities, there were 12 DVS registered abattoirs in 2010, of which nine were operational. They charge deeply subsidized slaughter fees. In 2010 there were also around 80 rural slaughter slabs and four private abattoirs. Enforcement at the slab butcheries of the standards required by the 2006 Livestock and Meat Industries Act (LMIA) is a major challenge, leading to distortions in the operations of the sector. The FAO Report highlights that if the LMIA standards are strictly enforced, many small butcheries would become uneconomic and would close. This matter is discussed in more detail in Section 4.2.3.

The supply of cattle is highly seasonal, leading to most butcheries operating at half their capacity for a significant part of the year in the summer. The trend toward increased feedlotting is partly aimed at reducing this seasonality.

Secondary processing

Deboning carcass and cutting the meat into portions and cuts, and further processing the meat into canned beef and sausages, etc., takes place in a small number of approved facilities. In addition to BMC, the latter include processors such as Senn Foods and Quality Meat, and large butcheries such as Gantsi Beef, Afro Butchery and Butcher Shop. The grocery chain Choppies has quickly become a major operator in this area, with the rapid expansion of its outlets.

²⁸ <http://en.mercopress.com/2009/07/07/brazilian-beef-processor-raises-cattle-slaughter-capacity-to-26.000-head>

Most of the big processors have built an integrated supply chain, including owning their own cattle farms, feedlots, abattoirs, meat processing plants, distribution facilities and sometimes retail outlets. There are some variations to this model, with some contracting with feedlots for supply, or hiring abattoirs. Many of the largest processors have the latest production management systems.

At BMC, processing of the carcass after slaughter includes deboning and cutting, followed by vacuum packaging and boxing for export as either frozen or chilled beef. BMC also produces further secondary processed beef products such as ox tongue, stewed steak and corned beef, and by products including pet food. Both corned beef and canned pet food is distributed under its ECCO brand. Most of the secondary processed beef is sold in the local market, and BMC also supplies Botswana's school feeding program with stewed beef.

The larger private beef processors process the beef into cuts, sausages, minced beef, etc., and package them in retail packs for sale primarily at the major grocery chains in Botswana. They also supply local restaurants and caterers.

Profitability of beef processing

The economics of the industry is distorted by BMC's dual objectives of operating commercially whilst fulfilling a social role in respect of the smaller livestock holders. In recent years, BMC has not been profitable, and became financially insolvent over the 2009-2012 period with accumulated losses of P727 million.²⁹ In 2013, it has reported a profit of P29 million as a group.³⁰ A number of factors have been identified as affecting BMC's poor profitability and recent losses, including high seasonality in capacity utilization, spread of capacity over three plants, increase in prices paid to producers, its low operating efficiency and the lower than potential prices achieved in export markets. The inefficiencies associated with the poorly implemented LITS system have exacerbated these problems. Of these factors, the cost of cattle procurement, which went up from 48% of average total cost in 2005 to 63% in 2012, is highlighted as the most important contributor to BMC's deteriorating financial performance. Principally as a result of the introduction of EPP, the average price paid for cattle increased from P695 per 100kg CDM in 2005 to P2,008 in 2012. In addition, BMC's DCP feedlot system is estimated to have lost P35 million, most of it during the 2011-2012 period when the EU market was closed.³¹

One of the principal operational problems facing BMC has been low capacity utilization. This was as low as 40% in 2007, increased to 63% in 2007. In 2012 and 2013, capacity utilization was 48% and 55% respectively.³²

²⁹ Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

³⁰ BMC Annual Report 2013.

³¹ Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

³² BMC information.

The FAO Report, citing a 2009 benchmarking study, highlighted that improving BMC's operating efficiency to industry average levels would result in annual cost savings of BWP260 million. The study identified the following areas as requiring improvement:

- Low stock turnover in peak season, at three to four times longer than the industry average;
- Overall productivity being around one-third of industry average, principally contributed to by overstaffing, especially in administrative areas. More effective use of management information systems (MIS) would improve productivity and efficiency.
- Moisture loss was three times the industry average of 1% and boning yields were 67% compared with an industry average of 69%. Part of this is caused by a EU requirement that carcasses be subjected to a 24 hour maturation cycle before cutting and packaging.
- Overall processing costs varied, but in 2008 this was 30% higher than industry average and 67% higher than industry best practice. Increasing throughput and reducing cost of processing per head (most is fixed costs) is one initiative being pursued in the Commission's immediate and medium term strategy.

The FAO Report also carried out financial modelling to establish the profitability of a small butchery and found that the activity could be profitable, but was susceptible to cost increases and had high risks associated with availability of supplies.

The domestic processors have indicated that their profitability is variable and one of the main motivations for investing in processing capacity is the anticipation of a lifting of the BMC monopoly and realizing higher export prices. They also point out the destabilizing effect that BMC's often fluctuating supply can have on the domestic prices. For example, during the 2011-12 period when BMC could not export to the EU markets, its domestic market share went up to 26% of sales and 32% by volume in 2012³³, leading to substantial losses by local processors.

It has generally become evident from recent events, e.g. FMD outbreaks and EU delisting, that it is export markets that sustain the high prices paid to local farmers.

3.5. MARKETING AND DISTRIBUTION

Domestic wholesale

The FAO Report highlights that in the domestic market most beef is sold directly by butchers, or by processors through retailers. Although there are some cash and carry outlets, the domestic channel does not have any wholesalers.

Domestic retail

The FAO Report estimated the domestic beef market at BWP705 million.

The main domestic retail channels for beef are:

- Village and urban butchers.
- Supermarket and cash and carry stores.
- Restaurants.

³³ Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

The FAO Report estimates the number of butcheries at around 500. Most villages have at least one butchery, normally part of a grocery store. Although cooling facilities are often available, most customers prefer fresh meat, with chilled meat being associated with that having been frozen before. In some remoter parts, individuals sell meat in the open, having slaughtered the animal themselves. Customers in rural areas tend to prefer bone-in meat.

Butcheries and supermarkets in urban areas use more modern facilities and are estimated to account for 80% of the domestic market. In 2010, supermarkets and cash and carry stores accounted for 20% of the domestic sales, but their current share is likely to be significantly higher and is rising rapidly. The major contributor to growth is Choppies, which has been growing at more than 20% per year and as at June 2014 had 69 stores in Botswana³⁴, having increased from 49 outlets in 2010.

Choppies supplies its stores through its own subsidiary, Safrosh. Other supermarkets buy their meat from local processors such as Senn Foods and Quality Meat, or enter into contracts with processors to operate butcheries in-store.

Exports

The BMC has appointed GPS as its distributor in export markets. The latter's principal responsibilities are:

- Export market penetration and diversification, and selling available inventory into those markets.
- Receivables from the customers they sell to.
- Assist BMC with product improvement and production planning capacity development to help BMC achieve its market focus strategy.
- Promotion of BMC product in target markets.
- Supply BMC with market data and information

GPS is remunerated by way of a fixed percentage commission on the sales it generates. The contract does not give it exclusivity in any market: BMC is free to find own customers for direct supply. The length of their engagement is dependent on performance.

GPS has a similar contract with MeatCo of Namibia.

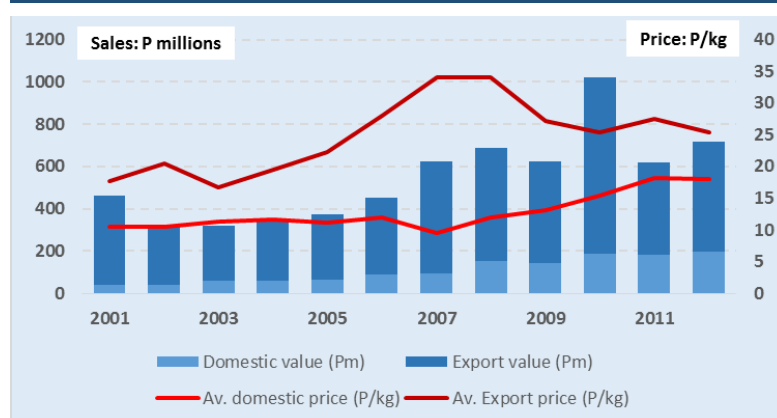
A key issue with the export of Botswana beef is the lack of branding and market segmentation. As a result, the price achieved is equivalent to more commoditized beef. In addition, BMC has no capacity for market intelligence, marketing etc., and relies on GPS almost totally for such intelligence.

All Botswana beef exports are distributed through South Africa, and specifically for overseas markets from Cape Town.

³⁴ The company is also expanding its retail network in South Africa and Zimbabwe.

BMC's sales in export and domestic markets

Figure 15: BMC domestic vs export sales and prices



Source: Final report of the special select committee on inquiry on the Botswana Meat Commission and the decline of the cattle industry. February-August 2013. Draft.

Figure 15 highlights the trends in domestic and export market sales and prices achieved by BMC. Although average export prices continued to show a premium over those in the domestic market, the margin between them has been falling since 2007, as domestic prices have risen with increasing demand. This has been exacerbated by falls in export prices since 2008. In addition, the proportion of sales to the domestic market has been increasing steadily, even before the 2011-2012 EU market suspension. In 2001, BMC

domestic sales accounted for less than 9% of total sales. In 2010, before the EU suspension, it had increased to over 18%.

3.6. OTHER INPUTS

Feed and fodder

Cattle's nutrition is typically supplemented with dicalcium phosphate due to the low levels of minerals typically found in Botswana soils. Most of supplements and feed ingredients are imported, causing the overall cost of feeds and fodder to be higher compared with neighbouring countries. Some of the grain by-products enter the fodder supply chain albeit seasonally.

The local feed industry either imports finished products mainly from South Africa, or purchases the ingredients and mixes them locally. Production sites are located in the South East district, mostly around Gaborone. Currently 22% of the communal farmers provide their cattle with supplements³⁵. Farmers get access to the feeds and inputs through regional outlets. In addition to the private feed retailers, LAC have traditionally supplied farmers with feeds at subsidized prices. LAC have been struggling to keep up with high demand by the farmers on one hand and the low financial capacity on the other.

The FAO Report highlights that improved use of licks to increase the productivity of grazing could have a dramatic impact on productivity, especially in communal areas. However, a number of factors, such as lack of knowledge, affordability and uncertainty about their economic return limits their wider adoption. Only 22% of traditional farmers use supplements in their cattle production³⁶, significantly smaller than the proportion of commercial farmers.

The main issues relating to feed and fodder inputs in the beef supply chain are:

³⁵ 2012 Annual Agricultural Survey Report. Statistics Botswana. April 2014.

³⁶ 2012 Annual Agricultural Survey Report. Statistics Botswana. April 2014.

- Expensive feeds due to most of the ingredients being imported.
- Risk of disruption of overseas supplies.
- Lack of R&D activities for indigenous feed ingredients.
- Low mineral level in soil make use of supplements necessary to compensate.
- Scope of Livestock Advisory Centres (LAC) minimal due to lack of financial capacity.
- Cash flow constraints at farmers constrain their ability to buy feeds.
- Supplements, medicines and other inputs not consistently registered in LITS.

Veterinary drugs

LAC have historically supplied livestock medicines at discounted prices. Due to financial constraints though, LAC carry very limited stocks of medicines. One of the requirements of Botswana's export markets is for the drugs to be administered by vets and their sources to be registered in the LITS system. Currently lack of reliable record keeping in this area is a major shortcoming of the LITS system. Based on the 2012 Annual Agricultural Survey Report, an average 73% of the cattle in the communal holdings are vaccinated, with the highest percentage observed in the Maun region³⁷ whilst the lowest rate is observed in Western Region³⁸.

The principal issues related to this segment of the value chain are:

- Lack of recording of medicine administration.
- Vaccination levels at FMD zones have not reached 100%.
- Lack of funds for LACs means that veterinary drug prices might be expensive for some farmers in the future.

Breeding

Three locally available breeds are reared in Botswana: The Tswana, the Africander and the Tuli. Since the 1970s extensive research has proven that the Tuli breed offers better performance compared with the other local breeds³⁹. Botswana has since moved out of the local breeds and into crossing with foreign breeds. The crossing is done very much on a random basis, risking dilution in the advantages of the local breeds.

The range of cattle breed grown in the traditional sector is relatively narrow. In 2012, it comprised 48% of Tswana and 46% of cross breeds. Commercial farmers use a significant proportion of cross breeds (48%), and breeds such as Brahman, Simentaler and Bonsmara. Tswana comprise only 5% of cattle in commercial farms. 2012 data shows that the large majority (97%) of the breeding in the traditional sector is done naturally, with only a small portion of that being with artificial insemination. Although the use of the latter at 2.5% remains low, it has doubled in four years.⁴⁰

Some of the key problems affecting this segment are:

- Lack of breeding strategy, particularly among communal farms.
- Random crossing amongst breeds not based on scientific evidence.
- Lack of regulatory framework for cross breeding.
- No bull movement control or restrictions.

³⁷ Ngamiland West, Ngamiland East, Chobe

³⁸ Gantsi, Hukuntsi, Tsabong

³⁹ In terms of calving, mortality, weight, weaner calf weight, weight of 18-month old calf.

⁴⁰ 2012 Annual Agricultural Survey Report. Statistics Botswana. April 2014.

4. SUPPORT INSTITUTIONS IN THE BEEF SECTOR

4.1. INTRODUCTION

The institutions and services supporting the beef value chain play an important role in its success. Given the nature of the livestock sector, it is critically dependent on the quality of services it receives from, for example, the veterinary services, market intelligence and information on standards. To optimize effectiveness, the support institutions need to work together as part of a coordinated network.

The support provided to the Botswana beef value chain is generally very professional, and of high quality. Nevertheless, a number of support-related issues hamper the sector's performance. Some of them need to be addressed urgently as highlighted below.

4.2. PUBLIC TRADE SUPPORT INSTITUTIONS

MOA is the principal support institution in the beef sector. It provides its assistance to the sector through the following departments and agencies:

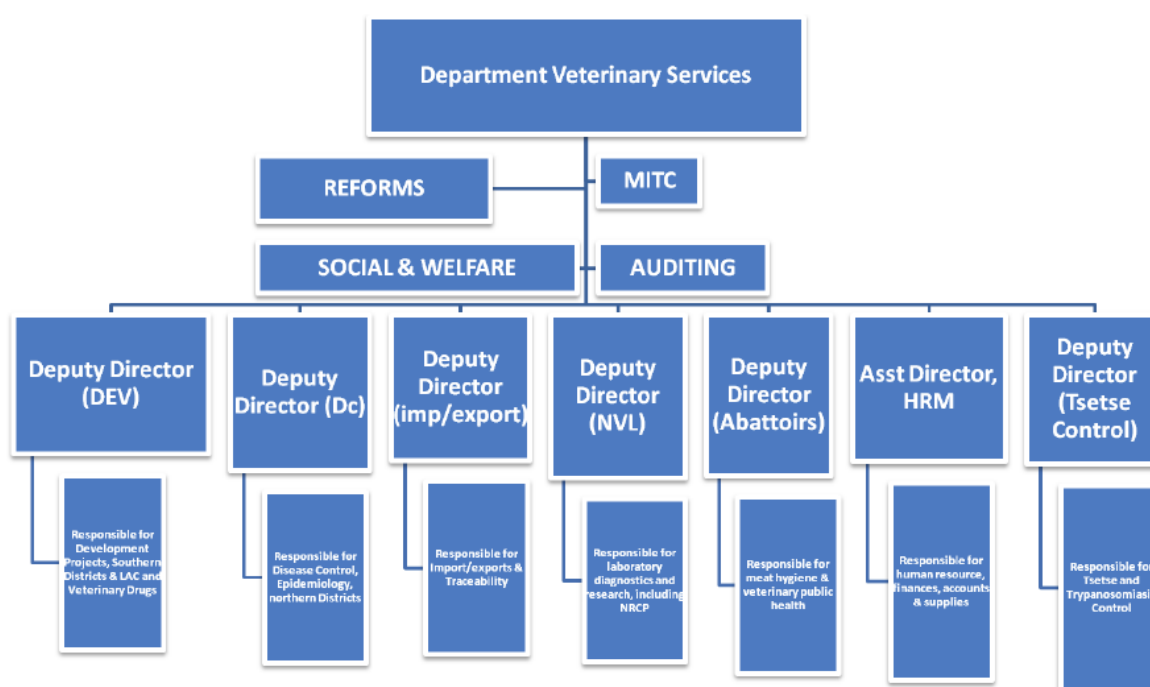
- DVS: which provides veterinary and animal health-related extension services; enforces regulations and standards relating to production and processing; distributes subsidized inputs through LAC; and inspection services through BNVL.
- DAP: Provides extension services in areas such as improving breeding methodology; training on production; support of trade associations; and implementation of subsidy schemes.
- Department of Agricultural Business Promotion (DABP): DABP provides agribusiness advisory support to farmers and processors in areas such as marketing; farm management; agricultural trade negotiations; and policies and regulations relating to cooperatives.
- Department of Agricultural Research (DAR): Carries out research principally in the area of improvement in animal production, including breeds and breeding methodology.

4.2.1. VETERINARY SERVICES

In 2008 the former Department of Animal Health and Production was divided in two independent departments: the Department of Animal Production (DAP) and the Department of Veterinary Services (DVS). These two departments have national responsibility. In line with MOA strategy, DVS focuses on animal health issues and compliance, and oversees implementation of SPS related regulations. Under DVS there are six divisions led by Deputy Directors, all veterinarians by background. In addition to the centralized structure at MOA, the veterinary services include 10 District Veterinary Offices (DVO) and 28 Sub-Districts Veterinary Offices (SDVO), some of the latter are co-located with DVO. The next level of the veterinary services structure is clusters, then extension areas and finally crushes. Whilst all DVOs are headed by veterinarians, not all the SDVO are headed by veterinary officers and in some cases they are led by non-veterinary scientific officers.

Figure 16 below presents the DVS organizational structure.

Figure 16: DVS Organizational structure



Source: PVS Gap Analysis Report: Botswana. OIE. November 2011⁴¹

Overall, DVS personnel are considered highly skilled with the majority of the veterinarian officers having qualified at reputable international institutions. Some of them hold postgraduate degrees. Positions at the top of Figure 16 are dedicated to veterinarians whereas the staff that are in daily contact with the farmers and the cattle are mostly veterinary para-professionals. The latter normally receive official training but are not always supervised by a veterinarian. This is attributed mainly to the multi-layer hierarchical structure of the organization.

In 2011 the World Organization for Animal Health (OIE) published a PVS Gap Analysis⁴² aimed at assisting DVS to identify the gaps in the current system and propose a strategic action plan that aims to strengthen the organization to meet future challenges and remain compliant with the OIE standards. The OIE PVS Gap Analysis clearly states that the overall challenge for DVS is to be able to improve the overall efficiency. It also mentions that the current lack of veterinarians on the ground does not meet the OIE requirements. During the consultations held by the ITC team, interviewees agreed that the current veterinary services are not optimal, requiring far-reaching reform. Over the years the department of veterinary services has accumulated a vast array of responsibilities including:

- Vaccinations, both routine and critical
- Fence maintenance
- Health inspection
- Disease management
- LITS

⁴¹ Since the production of the organization chart, MITC (Meat Inspection Training Centre) has been taken over by the Botswana College of Agriculture as MITI (Meat Inspection Training Institute)

⁴² PVS Gap Analysis Report: Botswana. OIE. November 2011.

- Cattle movements
- Meat inspection, and
- Effective and up-to-date advice on inputs.

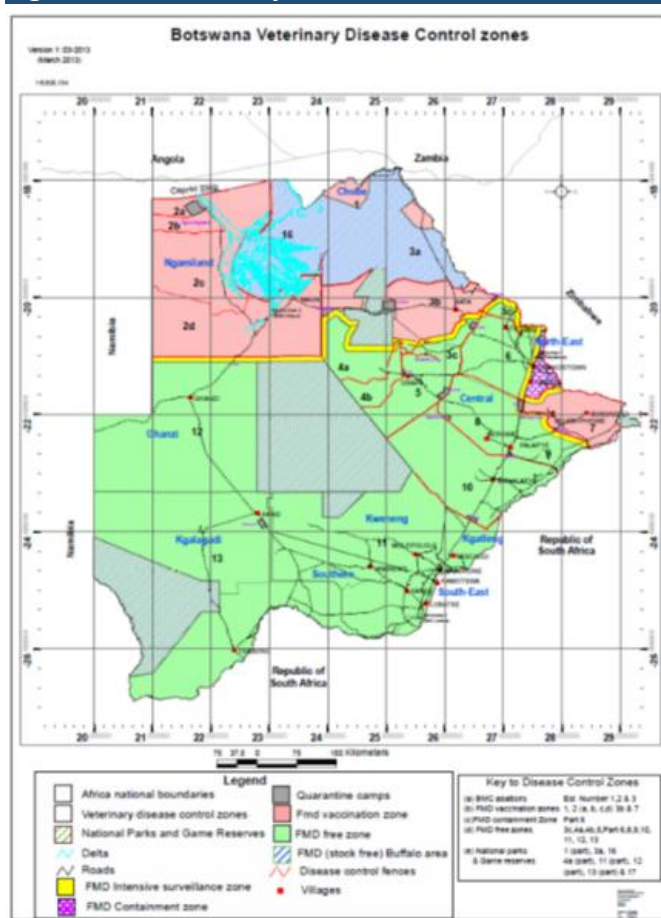
There is currently a shortage of qualified personnel, particularly close to the farms. Also, extension officers must cover long distances on a daily basis. This situation has led to:

- Unavailability of the extension officers when and where needed.
- Increasingly high workload with multiple requests to attend different sites simultaneously.
- Lack of resources for transportation since often these means are shared with other departments of MOA.
- Shortage of qualified veterinarians on the ground and in contact with the farmers.
- Outdated knowledge on best practices and information in relation to animal diseases.
- Poorly serviced and maintained LITS equipment has impacted negatively on some businesses, especially feedlots and issuing of movement permits.

FMD and measles

Foot and Mouth Disease (FMD)

Figure 17: Veterinary control zones



In order to order to tackle FMD outbreaks, Botswana initiated the zoning system in the 1950s. “Red zones” were established in areas with high occurrence of both wild buffaloes and FMD, separated from “green” disease-free zones. A buffer zone where cattle form a first tier of warning in the case of breakouts separates the two types of zones. Only cattle in the red zones are vaccinated. EU exports originate from the “green zones”⁴³. The FMD-free status of the green zones is confirmed through regular tests conducted at Botswana National Veterinary Laboratory (BNVL). Complete eradication of FMD in Botswana is a hard task, due to co-existence of cattle and wildlife. An alternative approach to today’s efforts to manage the disease could be to initiate a risk assessment based program such as the Commodity Based Trading (CBT) helping to avoid new outbreaks and at the same time maximize the value of the cattle from FMD-prevalent areas such as Ngamiland. Such programs although technically feasible, they are yet to be accepted by international organizations

43

such as OIE and governments⁴⁴.

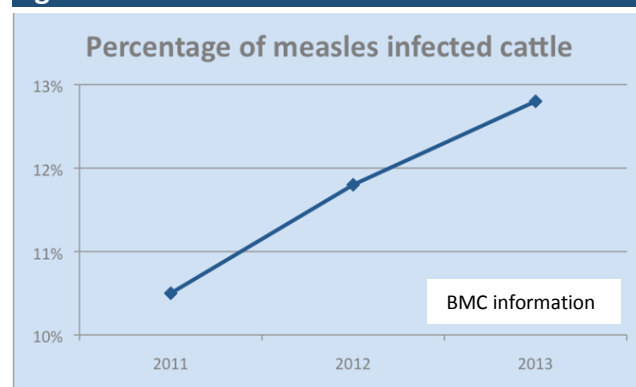
An estimated 6.2% of Botswana's cattle population lived in FMD affected zones in 2012. This had fallen from 7.5% in 2008.⁴⁵

Current issues:

- Co-existence of cattle and wildlife poses challenges to the government's efforts to eradicate FMD.
- Existing heat treatment equipment leads to excessive loss of meat mass of over 40%.
- Lack of DVS resources in the field.
- Wildlife fences repeatedly damaged by elephants.
- Lack of coordination amongst countries bordering Ngamiland and Caprivi Strip.
- No serious alternative for FMD vaccination zones cattle.

Measles

Figure 18: Trend in measles infection in cattle



The percentage of cattle infected with measles has been growing by 10% annually the last three years, settling at 12.8% in 2013.⁴⁶ These figures underscore the importance of eradicating the disease. In comparison, the average percentage for the neighbouring countries is around 3%. Unlike FMD, measles is not detected prior to slaughtering, therefore it is hard to predict and reduce the financial losses. Eradicating measles completely would require a nationwide program coordinated by the MOA with the active participation of Ministry

of Health (MOH). Measles eradication should be taken seriously by all stakeholders in the beef sector, otherwise the sector risks to be confronted with a generalized crisis.

Current Issues:

- Lack of centralized strategy to tackle the growing measles threat.
- Cattles gets access to human effluent particularly during dry season.
- Lack of awareness amongst general public of measles impact on beef sector.
- Inadequate DVS resources in the field.
- Lack of meat inspectors at abattoirs to prevent infected meat entering the food chain.

⁴⁴ FAO Report

⁴⁵ Authors' calculation based on Annual Agricultural Survey information.

⁴⁶ Data provided by BMC

4.2.2. LIVESTOCK IDENTIFICATION AND TRACE-BACK SYSTEM

Livestock branding originates in ancient Egypt, originally using a hot metal stick. Originally, branding served to identify the owners of cattle. This practice was particularly followed in countries with large grazing areas. In more recent times branding has been used to assist in traceability in addition to identification. In April 1997 in response to the BSE⁴⁷ crisis, the Council of the European Union implemented a system of permanent identification of individual animals and their edible products enabling the traceability.

The key objectives were:

- The localization and tracing of animals for veterinary purposes, in order to control the spreading of infectious diseases.
- The traceability of beef for public health reasons.
- The management and supervision of livestock as part of the common organization of the market⁴⁸
- The identification systems requires that:
 - Each animal has a unique identification number
 - Each holding area is registered in a database
 - All animal movements are registered.

Initially, Botswana chose an advanced system, using a bolus inserted through the mouth into the stomach of the animal. A portable scanner reads the unique information registered in the bolus emitted with Radio Frequency Identification (RFID) and uploads the information into the centralized server located at MOA.

Following the feedback from farmers and other stakeholders, in January 2013 the government decided to replace the bolus system with ear tags. There has been a transition period during which both systems were used in parallel and the data from both systems was recorded in the MOA database.

The move to ear tags has encountered a number of problems, such as gaps in recording and duplication of records. The challenges in the implementation of the system are attributed to DVS internal processes rather than system shortages⁴⁹. Additionally, the implementation of the analogue ear tag as an intermediary solution before moving to digital ones is adding complexity and will lead to further delays of implementing the latter. It is therefore recommended to initiate immediately the implementation of the digital ear tag and phase out the use of both bolus and analogue ear tag.

⁴⁷ *Bovine spongiform encephalopathy*, or 'mad cow disease'.

⁴⁸ http://ec.europa.eu/food/animal/identification/bovine/index_en.htm

⁴⁹ Cattle Identification and Traceability in Botswana, Moreki J. C., Ndubo N. S., Ditshupo T. and Ntesang J. B.

The main problems surrounding LITS are:

- Owner's details are not correctly updated in the central MOA server
- A DVS member of staff is required to scan and issue movement permit at the farms, leading to delays and eventually disruptions to BMC's supply chain.
- Data is not updated (leveraged) by small-scale farmers due to lack of funds to purchase a scanner, failing to comply with export markets requirements.
- The government has invested over P230 million for a well-designed system but the project implementation has failed to deliver a reliable fully fledged solution.
- Unclear split of roles and responsibilities amongst the various stakeholders in the value chain.
- Delays or even failures to update the information into the central MOA database, exacerbated by poor connectivity.
- Absence of combining multiple databases related to animal disease management, animal movement and traceability.
- Conflict of interest as DVS is both the implementation body as well as the enforcer.

4.2.3. QUALITY CONTROL AND MANAGEMENT SYSTEMS

The LMIA requires that all slaughtering facilities are registered and their operations monitored by meat inspectors. The Act is based on *Codex Alimentarius*⁵⁰ international food safety standards and recognized for its completeness and quality. Nevertheless several years after its introduction, the Act is still not fully enforced. Some of the current shortcomings in enforcement will be bridged when the newly approved Food Authority, under the Ministry of Health (MOH) is established.

The challenges in this area relate principally to dual standards for export and local markets. BMC is both the International Standards Organization (ISO) and HACCP⁵¹ certified and meet export market requirements. Local standards, however, are weak. Besides food safety related shortcomings, there are weaknesses in general skills and operating practices in the domestic beef sector. There is no coherent standard implemented with respect to agricultural, hygiene and processing practices across the industry.

Current issues related to quality control and management systems include:

- Inadequate enforcement of LMIA across the industry resulting in weaker standards for the domestic market.
- Food safety responsibilities are currently scattered across different departments of MOA and MOH.
- Shortage of meat inspectors allowing potentially contaminated meat to enter the food chain, as in the case for measles.
- Slaughtering facilities lack hygiene facilities and cold storages are allowed to be established without requisite permissions.
- Need for a coherent effort to implement good agricultural practices.
- Scarce sanitary facilities and hygiene practices at farm level.
- Inadequate facilities for slaughtering and processing lead to food processors to follow their own practices.

⁵⁰ See <http://www.codexalimentarius.org>

⁵¹ Hazard Analysis and Critical Control Points

4.3. TRADE ASSOCIATIONS

The Botswana National Beef Producers Union (BNBPU)⁵² acts as an apex institution for the country's network of local and regional beef producers' associations. The various associations at the village and local level collaborate in 17 regional beef producers' associations. The chairpersons and secretary generals of each of the regional associations form a National Beef Council. The Council elect the Executive Committee of the BNBPU. BMC charges a levy of P2 per head of cattle it purchases and this is collected by MOA, a portion of which is used to fund the secretariat of the union. To date, the CEO of BNBPU or its secretariat has not been formally funded. The regional associations lack resources and at present do not provide meaningful services to their members.

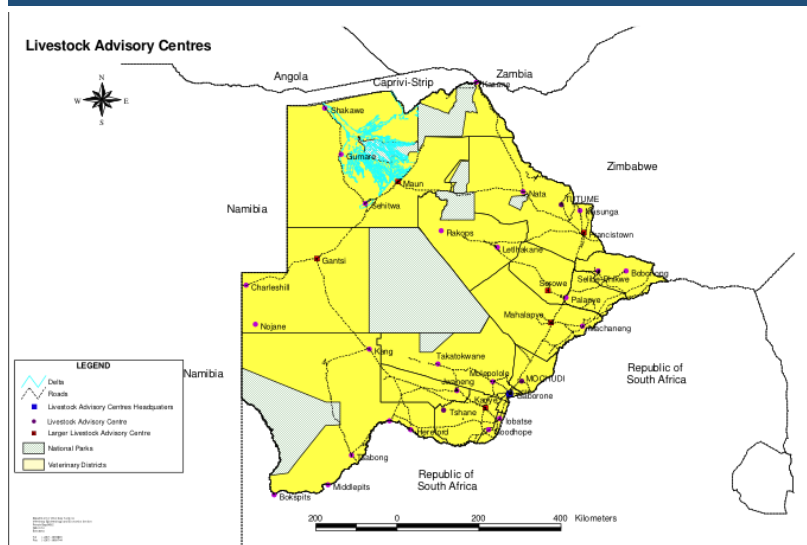
In addition to the network of beef producers' associations, there is a Botswana Meat Traders and Processors Association (BMTPA), which represents the interests of processors. It was established in 2009. Its objective is to represent members on matters affecting and concerning the business of meat industry. Membership is open to all butchery owners. Membership is open to individuals, companies, closed companies, sole proprietors and joint ventures. The chairman of BMTPA represents the association at BOCCIM. The association has 15 members.⁵³

Some of the challenges facing the beef producers associations include:

- Weak regional and local farmers associations.
- Lack of coherent strategy for farmers associations.
- Weak finances, principally as a result of limited fee generation from members.
- Associations lacking financial independence and secretariat support.
- Weak networks within trade associations.
- Need for capacity building amongst association members.

4.4. LIVESTOCK ADVISORY CENTERS

Figure 19: Geographic distribution of Livestock Advisory Centers



36 LAC are distributed around Botswana. Their primary purpose is to sell livestock inputs such as feeds, medicines, vaccines, and husbandry equipment. Figure 19⁵⁴ shows the distribution of LAC across the country.

In the past LAC were the sole feed vendors in rural areas. The prices were heavily subsidized. Over the years and due to budgetary constraints it has been challenging for LAC to keep an adequate amount of feeds, vaccines and medicines stock. Their limited

⁵² The BNBPU has superseded the Botswana Cattle Producers Association (BCPA).

⁵³ BMTPA information

⁵⁴ http://www.moa.gov.bw/downloads/lac_history.pdf

scope includes the provision of inputs at subsidized prices. LAC staff cannot always meet the demands for making on-site visits for inspection, issuing movement permits, etc. Due to budgetary restrictions the availability of inputs is not always guaranteed for the farmers, thus leading to delays in cattle treatment and productivity loss. The services provided by LAC are free for all farmers irrespective of the size of their herd or their financial capability. Sales and uses of medicines are not registered or captured centrally by MOA.

LAC require further attention in the following areas:

- Optimize the location of LAC to ensure accessibility and reduce transport costs.
- Separate the veterinary advice from the commercial aspect within the LAC.
- Increase the availability of LAC staff.
- Ensure the availability of inputs⁵⁵

4.5. TRANSPORT

In the past, when the country's transportation network had not been developed, the transfer of cattle from the farm to the abattoir was done by foot. Ever since roads were built, different types of trucks are used to transport cattle. Before the cattle are transported, a movement permit needs to be issued by the DVS staff. This is a cumbersome process that affects both farmers and DVS. For the EU export market, all the beef is exported to South Africa, where they are stored in BMC's owned cold facilities in Cape Town. The lack of alternative route poses a significant risk to Botswana. If there is an FMD outbreak in South Africa, consignments from Botswana would no longer be able to travel through the country.

Transportation poses a series of issues in the value chain, including:

- Large proportion of farms are not easily accessible by road.
- Lack of organized transportation system for cattle movements.
- Cattle movement is a cumbersome and bureaucratic process.
- Many small scale farmers sell their cattle to middle-men or local butchers at a relatively low price due to lack of transport.

4.6. RESEARCH AND DEVELOPMENT

The MOA's Department for Agricultural Research is the principal body responsible for research in the livestock sector. The main beef sector-related work carried out by the department relates to breeding stock and livestock management practices. There is currently a considerable need for additional research in the beef sector. In order for the research to be applicable, it needs to be conducted with a market-driven focus. The areas where more research could benefit the beef sector include:

- Scientific research on FMD development and spread in Ngamiland.
- Scientific research on cattle and wildlife movements in Ngamiland.
- Indigenous plants-based feeds and fodders.
- Dry-season feeding.
- Nutritious content and mass uptake for food supplements.
- Fodder production in view of future needs for the growing feedlot industry.

⁵⁵ FAO Report

In addition to DAR, the government-owned National Food Technology Research Centre (NFTRC) carries out research in meat processing and packaging.

4.7. TRAINING

The principal training provider in the sector is the Botswana College of Agriculture (BCA). It was established in 1991 under an Act of Parliament, which abolished the then Botswana Agricultural College that had existed since 1967. The College is a parastatal under MOA and an associate Institution of the University of Botswana. BCA offers higher diploma and degree programs in agricultural sciences, as well as short courses offered by its Centre for In-service and Continuing Education.⁵⁶

BCA offers diploma, BSc, MSc and PhD programmes in Animal Science and Production. BCA has been approved to transform into an agricultural university soon. The department of Meat Science and Technology will run MITI. Such faculties of Agricultural Extension, Economics and Education; Food Science and Technology; Agricultural Engineering and Land Use and Crop Science and Production also offer courses that contribute to the animal science students knowledge in taking some courses from them such as Extension, Farm Records and Marketing, Fodder Production, Range Management and Farm Machinery and Equipment, etc. There are also short courses in Beef Cattle Production, Fodder Production, Farm Record Keeping, Marketing of Livestock and Livestock Products, Livestock Products Processing offered to both farmers and Extension officers for a fee.

In addition, the MOA Division of Farmer Training operates five Rural Training Centres in Denmang, Francistown, Southern, Ngamiland and Mahalapye. They offer training in different aspects of agricultural production, including livestock production. Courses range from one to six weeks and are offered free. Enrolment is secured through extension officers.⁵⁷

Training courses offered tend to be of high quality. However, they often lack commercial and economic content. In addition, there is a dearth of training offered to technicians and field workers, doing day-to-day work in the farms. MOA, in partnership with the New Zealand government, is currently developing a curriculum for training different stakeholder groups in the beef sector.

4.8. FINANCE AND INSURANCE

Beef production, especially on a commercial basis, requires substantial funding. In addition to capital investment in land, infrastructure such as fencing and plant, and cattle holdings, the long production cycle extending to three-to-five years requires working capital support.

Both the National Development Bank (NDB) and the Citizen Entrepreneurial Development Agency (CEDA), which are government funded, provide concessional finance to the sector. The latter also provides grant. CEDA has outstanding loans of P1.6 billion to the agricultural sector, of which approximately half is to the livestock sector. Most of these are to cattle producers and CEDA is keen to finance other parts of the value chain, including small abattoirs and processors. The government also provides significant direct commercial support to BMC.

The FAO Report highlighted that in 2010, the amount of commercial credit to the beef sector was significant, with total credit from the five domestic commercial banks estimated at P742 million.

⁵⁶ <http://www.bca.bw>

⁵⁷ http://www.gov.bw/en/Ministries--Authorities/Ministries/MinistryofAgriculture-MOA/Tools--Services/Agricultural-Training/Farmer-Training-Services/?p_id=3995

Nevertheless, in the absence of land and other fixed collateral, communal farmers find it difficult to borrow. Lending against supply contract is not common, although BMC has entered into a guarantee scheme with Standard Chartered Bank in respect of some of its suppliers. BECI, owned by the Botswana Development Corporation, provides credit insurance to SME exporters.

In 2010 the Botswana Insurance Company launched a range of livestock insurance products developed in South Africa. These are mainly aimed at larger commercial farmers.

5. GOVERNMENT POLICIES RELATING TO THE BEEF SECTOR

5.1. INTRODUCTION

Agricultural sectors are typically characterized by widespread government activity across the world, particularly as they affect the livelihoods of the rural poor. This is particularly the case in Botswana's beef sector, which is of strategic importance for the country. Over the years, the government has implemented a number of initiatives to provide support to the sector as a whole, or to particular segments within it, often with mixed results. Currently, the government's participation, or strong influence, is prevalent across the beef value chain.

In this section the study highlights the legal and regulatory framework of the sector, as well as some of the principal government policy actions. Stakeholders consulted as part of the study are not aware of any donor programs aimed at directly supporting the beef sector.

5.2. LAWS AND REGULATIONS AFFECTING THE SECTOR

The FAO Report lists the following laws as being important for the sector:

1. Law 36:01 Control of Livestock Industry
2. Law 36:02 Branding of Cattle
3. Law 36:03 Livestock and Meat Industries, covering *inter alia*:
 - a. Grading and Carcass regulations
 - b. Livestock and Meat Industries (Meat Inspection, Control of Red Meat Abattoirs)
 - c. Livestock and Meat Industries (Producers' Agent Regulations)
 - d. Livestock Bones (Export Levy Regulation)
4. Law 36:04 Registration of Livestock. This was replaced in 2009 (implemented in 2012) by the Livestock Improvement Act)
5. Law 36:05 Pounds
6. Law 36:06 Matimela (relating to stray livestock)
7. Law 37:01 Diseases of Animals
8. Law 37:02 Cruelty to Animals
9. Law 51:01 Cattle Export and slaughter Levy
10. Law 74:04: Botswana Meat Commission.

The following laws and regulations are also relevant to the sector:

- BSE Control (Removal of Specified Risk Material), 2004
- Livestock Identification and Trace-back Regulations, 2004
- Stock Feed Regulations, 2004
- Prohibition of Use of anabolic Hormones and Thyrostatic Substances Regulations, 1987
- Food Control Act of 1993
- Public Health Act of 1971 (amended 1981)
- Agrochemicals Act of 1999
- Township Act of 2004
- Local Government (District Councils) Act of 1965 (amended 2004)
- Standards Act of 1995.

The MOA has been steering for some time a draft Food Control Act for approval and enactment. Under the proposed law a Botswana Food Control Authority and a National Food Control Board will be established. The objective is 'to provide consumer protection and ensure that all foods during production, handling, storage, processing, and distribution are safe, wholesome and fit for human consumption; conform to safety and quality requirements; and are honestly and accurately labelled as prescribed by law.'⁵⁸

To the extent that a substantial element of the value chain is focused on exporting to the EU markets, various EU regulations also affect the sector, including those related to the transport of animals; animal identification and registration; and packaging.

5.3. POLICY FRAMEWORK

The six-year National Development Plans outline the government's objectives for the sector over their life. The current plan, NDP 10, covers the period 2009 to 2016⁵⁹.

NDP 10 sets out the following goals, objectives and programs aimed at the agricultural sector in general, and livestock in particular:

Goals

1. To facilitate the growth and competitiveness of the agricultural sector.
2. To enhance farmers' capability and willingness to use resources sustainably and safeguard rangeland resources.
3. To provide the necessary human resource needs.

Strategies

The goals are intended to be achieved through the implementation of the following strategies:

- Support to household security and SMME enterprises, to enhance production levels and sustain livelihoods of small scale farmers. This strategy involves the provision of subsidized services, inputs and skills and the promotion of clustering through nationwide service centres.
- Commercialization based on competitive advantage, aimed principally at promoting private sector investment in horticultural and crop production. Of relevance to the livestock sector are the objectives of:
 - Increasing private investment in infrastructure such as roads, electricity, water and telecommunications and technology.
 - Facilitating farmers' access to credit, markets and insurance.
 - Continuing to support genetic improvement through crossbreeding.
 - Hiving off services currently provided by government to the private sector.
- Pest and disease management, with particular focus on managing the spread of major diseases such as FMD. For the latter, the strategy envisages the establishment of buffer zones along FMD high risk areas, as well as implementation of effective management and monitoring tools for disease control.

⁵⁸ Draft Food Control Act

⁵⁹ Exceptionally for seven years, to coincide with meeting the aims of Vision 2016

- Building institutional capacity, which recognizes the extension system as being ‘very deficient’, aims to build skills and transfer technology; strengthen farmers associations; decentralize key services and manpower to farming communities; and ensure skills development is demand driven.
- Conservation of agricultural resources, which seeks to sensitize and empower farming communities to manage resources efficiently and rehabilitate degraded areas, promote more scientific research to back indigenous knowledge, and harness the benefits of intellectual property and associated rights.

The plan sets a number of targets for the agricultural sector, the most pertinent for the beef sector being increased beef production, being measured by increase in off-take from 10.5% in 2009 to 15% in 2016.

Programs

The NDP 10 provides for the following programs aimed at the beef sector:

Livestock Development Program

Aimed at the wider livestock sector in general, the program aims to assist farmers develop basic infrastructure for farming and purchase of some inputs, and with the drilling and equipping of boreholes in areas with water scarcity.

Agricultural Business Development Program

The program seeks to develop the livestock supply chain through:

- Increasing cattle off-take and throughput at processing plants by removing supply barriers posed by requirements of veterinary and police permits and transport logistics between markets and production areas.
- Improving product quality and consistency.
- Reducing the seasonality of supply by improving base load production levels.
- Liberalizing beef markets and expanding the export base for agricultural products.
- Capacity building in organizational, business management and technical skills for farmers.
- Facilitating market access through infrastructure development.

National Plant and Animal Health Regulatory Services Program

The plan highlights that around 10% of animals that reach BMC have measles, reducing annual export earnings by approximately P50 million. According to BMC 2013 reports, this figure could now have doubled. The program aims to train beef cattle farmers on the public health risks and negative impact on revenues. In addition, it focuses on:

- Building infrastructure and capacity to manage risks associated with animal and plant pests and diseases.
- Implementing measures to boost customer confidence with regard to food of animal and plant origin.

Agricultural Research and Technology Development Program

The program is intended to develop appropriate technologies to mitigate production constraints to provision of various services, including conservation of animal genetic resources.

Support to Enhance Service Delivery Program

Aimed at improving capabilities and access to research information to extension service deliverers, the program has four components:

- Fleet expansion to improve farm visits.
- Computerization.
- Integrated office and residential facilities to improve work environment.
- Research support for technical development of arable and livestock production.

The mid-term review of NDP 10⁶⁰ highlighted that the following strategies would be implemented that are relevant for the beef sector:

- ‘Transforming the livestock traceability system from the use of the bolus to ear tags.
- Adopting a value chain approach to the development of the beef industry.
- Community grazing areas will be demarcated to facilitate good range management and adoption of good husbandry practices.’

Adoption of the ear tag traceability system is now in progress. The value chain approach is now being considered alongside clustered production approach.

5.4. OTHER CORE SUPPORT POLICIES AND INITIATIVES

Land allocation and fencing policy⁶¹

One of the principal government policies affecting the livestock sector is that related to the allocation and management of land for livestock husbandry. The 1975 Tribal Grazing Lands Act moved the allocation and management of land from tribal chiefs to local land boards. Currently, it is possible for individuals to apply for the lease of a plot of land for exclusive use. However, the lack of finance for the necessary investment in fencing, boreholes, farm infrastructure and working capital often precludes the effective use of such land, especially in developing commercially managed farms. One of the problems highlighted about the current land usage policy is a ‘dual rights’ system, whereby the farmer allocated land for exclusive use can at the same time have access to communal resources, thereby depleting communal pastures and water resources, whilst saving on own land as reserves.

Since the 1950s, commercial farmers have been allowed to fence their plots. In the early 1980s, there was a move toward fencing parts of communal lands for exclusive use, but this was slowed down as a result of community resistance. Fencing is allowed in land allocated by the Land Board for exclusive use.

⁶⁰ Mid-Term review of NDP 10. Ministry of Finance and Development Planning. June 2013.

⁶¹ FAO Report

Support programs

The government's Livestock Management and Infrastructure Development (LIMID) program, which came into existence in 2002 through the consolidation of two initiatives, is currently the core support program for the sector. It provides grants to cattle farmers for establishing fencing and boreholes, and direct subsidy-based support for inputs and fodder. Some of these are distributed through LAC.⁶² Between September 2010 and August 2013 a total of P86.6 million had been disbursed for LIMID operations. Among other projects, 169 related to animal husbandry and fodder support and 118 borehole drilling projects had been implemented. In the 2013-2014 financial year LIMID had a budget of P50 million⁶³.

DVS also provides free or subsidized services and vaccinations to cattle farmers. In addition, relief measures are implemented in drought affected years, for example through subsidies on selected livestock feeds.

The Integrated Support Programme for Arable Agricultural Development (ISPAAD) was introduced in 2008 to increase productivity in arable sub-sector. It provides a range of support including the provision of potable water, seeds, fertilizers and access to credit.⁶⁴ It indirectly supports the livestock sector through increasing the availability of fodder crops although the latter is not fully exploited.

BEAC⁶⁵

Under a 2008 strategy entitled Botswana Excellence: A Strategy for Economic Diversification and Sustainable Growth, earmarked to be coordinated by a Business and Economic Advisory Council (BEAC), an action plan was developed for implementation. The MOA reports to the National Strategy Office (NSO) on the implementation status of this action plan, under the title of BEAC.

The goal for the cattle industry is to commercialize it and 'create a comprehensive, integrated recovery and structural change strategy, involving herd restructuring, pricing, BMC efficiency improvement and changes in marketing'. It envisages a gradual deregulation and privatization of BMC as the cheapest vehicle for achieving substantial diversification.

The action plan aims to:

- Create a threefold increase in cattle sector contribution to GDP over five years.
- Create programs to actively promote switch from oxen production to a weaner-based substantially feedlot-based cattle production.
- Incentivize traditional farmers to clear out old livestock by paying temporary premium.
- Provide government financial and expertise support for herd restructuring and rebuilding, by teaching commercial farming expertise to traditional farmers and supplying breed stock, by using Banyana farms (see below) as a platform.
- Restructure BMC and increase and diversify exports.

The MOA report to the NSO highlights the progress achieved in realizing these goals, and various bottlenecks and obstacles to their implementation.

⁶² FAO Report.

⁶³ Ministry of Agriculture, National Strategy Report. 8 October 2013.

⁶⁴ <http://www.gov.bw/en/Ministries--Authorities/Ministries/MinistryofAgriculture-MOA/Departments-of-MOA/MOA-Departments1/ISPAAD-Programme/>

⁶⁵ Information in this section is from Ministry of Agriculture, National Strategy Report. 8 October 2013.

Initiatives reported on include: promoting weaner production; strengthening artificial insemination services; restructuring of Banyana farm; promoting fodder production; facilitating the availability of breeding stock; achieving the elimination of subsidies to BMC; restructuring BMC for immediate efficiency and ultimate privatization; and significantly increasing export and downstream activities.

Banyana farms

In 1998, the Government acquired the Banyana farm from the Commonwealth Development Corporation to promote cattle breed improvement and act as a centre for training traditional farmers on improved and commercialized cattle production. Lack of resources and technical support led to limited success of this initiative. In 2008, the MOA sought to revive the initiative through a National Beef Herd Improvement Plan, the objectives of which included the strengthening of pricing and marketing; production management; genetics and the national herd; and education.⁶⁶ However, the Banyana farms, which have a number of bore holes and capacity for up to 15,000 cattle, are currently used very sparingly. Attempts are being made to restructure them and find alternative uses.

5.5. PROFESSOR MICHAEL PORTER'S RECOMMENDATIONS

In November 2012, Professor Michael Porter made a presentation to the Cabinet entitled Botswana: Towards a New Economic Strategy.⁶⁷ The recommendations of the presentation focus on developing a cluster-based approach to develop the country's competitiveness and progress the Government's EDD. The Cabinet has broadly accepted the recommendations and they are being implemented through NSO.

Cattle is one of the sectors identified for development. The presentation recommends the following relating to the sector:

- 'Upgrade the cattle value chain, positioning Botswana beef as a high-end naturally produced product.
- Set quality standards and guarantee achievement of high standards in naturally produced cattle.
- Diversify end markets through a focus on new consumer groups in emerging economies.
- Review the structure for international sales and marketing.'

5.6. TRADE POLICY RELATING TO THE BEEF SECTOR

The beef sector in Botswana is highly protected. As highlighted previously, BMC enjoys a monopoly in the export of beef and livestock from the country. Beef imports into Botswana are banned. The South African and wider SACU market is protected from external competition by a tariff of 40%.⁶⁸

A number of studies and reports have recommended the lifting of the BMC monopoly, at least for live animals in the first instance, to enable farmers to achieve higher prices, and improve the viability of producers. In addition, consideration needs to be given to importing lower grade beef in order to substitute higher grade beef for export and also for processing.

⁶⁶ The National Beef Herd Improvement Plan. Agricultural Hub. MOA. October 2008.

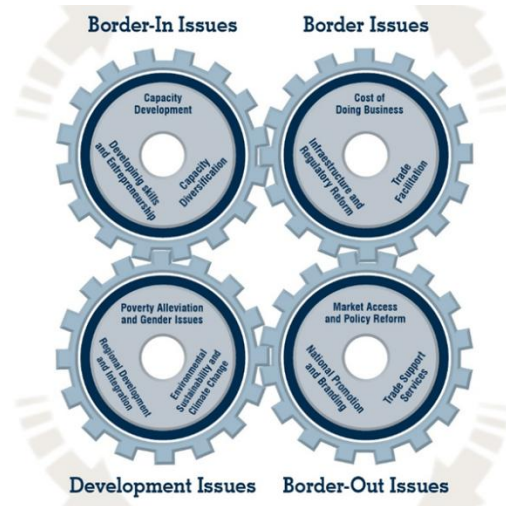
⁶⁷ Prepared by the Monitor Group, which Professor Porter heads.

⁶⁸ Botswana Development Policy Review: An Agenda for Competitiveness and Diversification. World Bank. September 2012.

6. COMPETITIVE CONSTRAINTS

6.1. INTRODUCTION

Figure 20: The four gears of export competitiveness



The analysis of this study relies on the ITC Four Gears Framework⁶⁹, which highlights the aspects, within the country as well as outside it, that contribute to a country's or sector's export success.

The Border-In Gear identifies supply-related competitiveness constraints, relating to matters such as capacity limitations, degree of diversification in the product base, as well as the entrepreneurialism and skills available in the sector. Border issues relate to the sector's business environment, in particular the strength of its support services, legal and regulatory environment, and the relative cost of doing business in the sector. The Border-Out Gear analyses the constraints the sector faces in entering export markets with respect to the trade support services, trade policy and practice related barriers within the country and in export markets, as well as the effectiveness of branding

and promotion of the sector's promotion and services. Finally, the Development Gear addresses long-term sustainability issues such as poverty alleviation, gender and youth development and the environment, as well as matters relating to regional cooperation.

Competitive constraints identified under these four gears impair export performance both in isolation and by interacting with each other. It is therefore important that all the key constraints are addressed by way of a coordinated strategy to ensure that the sector's export performance is optimized.

In this section, the preceding information has been built on to identify the Botswana beef sector's key export competitiveness constraints, by applying the Four Gears Framework. The vision, strategy and roadmap provided in the subsequent sections aim to alleviate these constraints.

⁶⁹ This framework has been created by ITC for developing its export strategies.

6.2. BORDER-IN GEAR: SUPPLY SIDE CONSTRAINTS

BORDER-IN GEAR: SUPPLY-SIDE ISSUES

Capacity development

- The sector is dominated by small, potentially uneconomic holdings.
- Weather fluctuations, droughts and shortage of underground water hamper the sector's performance.
- Seasonality of supplies to slaughtering facilities reduces supply chain efficiency.
- Persistent FMD in the northern red zone reduces volumes and prices achievable for exports.
- High overhead costs at BMC increases cost to the entire sector.

Capacity diversification

- There is a need to invest in technology, R&D and production capacity to produce different cuts, packaging, etc. for export.
- The range of secondary processed beef available is limited.

Development of skills and entrepreneurship

- Traditional pastoral methods often impede the introduction of modern husbandry techniques.
- Most communal farmers and many commercial farms do not approach livestock farming commercially.

Capacity development

The sector is dominated by large, potentially uneconomic holdings

Botswana's population has a long tradition of herding cattle. The majority of the population own cattle irrespective of their employment and social status. This results in a large number of small holdings that are not economically viable. According to Statistics Botswana, in 2012 over 74% of cattle holdings owned 15 head on average⁷⁰. The majority of the holdings are located in communal areas and full-time farmers operate some of them with no formal farming related training. Some are owned by part-time farmers who consider farming as a weekend activity on top of their official employment leaving the day-to-day management to herd boys residing at the holdings, the majority of whom have no formal training.

Weather fluctuations, droughts and shortage of underground water hamper the sector's performance

Botswana experiences extremes in temperatures and weather variability over the year. The summer months of October to April are characterized by high humidity and unbearable heat exceeding 40 °C in most areas of the country. Winter days between May and September are notably warm and sunny whilst temperatures drop to freezing points over the night hours. Over the medium to long term Botswana experiences periodic drought cycles of approximately a decade long.

⁷⁰ 2012 Annual Agricultural Survey Report, Statistics Botswana

Seasonality of supplies to slaughtering facilities reduces supply chain efficiency

Traditionally cattle farmers prefer to let their cattle graze during wet summer months until the beginning of winter. During this period there is plenty of grass and the cattle gain weight. On the contrary, towards the middle and the end of the dry season, the pastoral areas are overgrazed and the grass quantities are scarce. Traditional farmers, unless in need, tend to hold on to their cattle. Beef supply over the twelve month period looks very similar to a normal distribution or “bell curve”⁷¹, with the oversupply around June and July and the scarcity of cattle supply in December and January. The increasing use of feedlotting is intended to address this problem.

Persistent FMD in the northern red zone reduces volumes and prices achievable for exports

The cattle population in Botswana has been divided in the North and the South with a veterinary fence. As indicated previously, the country regions are sub-divided into veterinary zones that ensure that the impact from potential FMD outbreaks is limited. Approximately 10% of communal cattle are located in areas identified as “FMD-infected with vaccination region”, or the red zone. No beef can be exported to EU from this red zone other than as canned food as heat processing kills the virus but reduces the volume of the meat by 40%⁷². The restriction to access the lucrative EU market has resulted in the cattle located in Ngamiland selling at around a 20% discount on average to that from the green zone, after BMC’s implicit subsidy on the price it pays for the former. Other zones are classified as FMD-free with vaccination, and boneless meat sourced from these areas can be sold in the local and regional markets.

High overhead costs at BMC increases cost to the entire sector

BMC results have been disappointing over the last years. In some cases external factors have contributed towards significant losses like for example the period 2011-2012 when the exports ban to the EU was introduced. In addition, the administrative staff costs have been mentioned by both the GRM Consultants report and the FAO value chain study as being excessive and need to be reduced.

Capacity diversification

There is a need to invest in technology, R&D and production capacity to produce different cuts, packaging, etc. for export

Main BMC products are boxed fresh and chilled beef, canned food and carcasses, in this order. This portfolio is largely product-driven rather than market-driven. No market intelligence data is gathered systematically. BMC lacks R&D capabilities. Research partnerships, such as that with NFTRC could be explored. Packaging of processed food has not changed materially for decades. The ECCO brand, which has also not been updated for many years, is used to sell both food for human consumption and pet food.

⁷¹ <http://www.regentsprep.org/Regents/math/algtrig/ATS2/NormalLesson.htm>

⁷² BMC data

The range of secondary processed beef available is limited

BMC has a limited processed food portfolio, which has not been updated for many years. BMC should evaluate the opportunity of developing a new brand for canned corned beef and limit the ECCO brand to pet food. The canned food portfolio could be expanded with new local varieties of stew. Food recipes for this type of products have been previously developed by NFTRC but haven't been introduced in the market due to lack of uptake by BMC.

Development of skills and entrepreneurship

Traditional pastoral methods often impede introduction of modern husbandry techniques

The 88% of the nation's cattle population held by communal farmers is reared using traditional methods lacking scientific and technical input. Traditional pastoral methods have been developed considering the scarcity of resources and simplicity for the farmer and they are not necessarily the most productive. When comparing the traditional beef sector to the commercial, both the offtake rates and the death rates of the traditional sector are worse (6.9% vs. 11.99% and 9.9% vs. 3.3% respectively).

Most communal farmers and many commercial farms do not approach livestock farming commercially

According to the 2012 Annual Agricultural Survey, there are around 2 million cattle head in the traditional farming sector shared amongst 72,116 holdings, resulting to an average headcount per holding of 27.5 head. These holding are usually not commercially oriented and the owners lack knowledge of up to date skills and practices. Also, a significant proportion of commercial farmers lack the means to modernize their farms and very often the owners see farming as an afternoon or weekend activity on top of their full-time employment.

6.3. BORDER GEAR: QUALITY OF BUSINESS ENVIRONMENT ISSUES

BORDER GEAR: QUALITY OF THE BUSINESS ENVIRONMENT

Infrastructure and regulatory issues

- Underdeveloped transport and communication infrastructure increases costs and disrupts access to supplies and markets.
- BMC lacks modern, flexible packaging facilities for exports.
- BMC monopoly on exports disrupts the value chain and the lack of competition discourages innovation.
- BMC lacks the technology to promote commodity based trading of appropriately treated beef from FMD affected zones.
- Politicization of sector prevents strict enforcement of some regulations.
- Import restrictions distort the market and limit the scope for increasing the export of higher quality beef.

Trade facilitation

- There is limited technical and economic information available to sector participants.
- Botswana does not have access to meaningful independent export market intelligence.
- There is very limited research into the sector's economics, diseases, etc.

Quality of the institutional support

- Limitations in capacity at DVS leads to lack of flexibility, low commercial orientation and inconsistent official controls and enforcement.
- Export related responsibilities among MOA departments is highly dispersed; and MTI needs to increase its involvement in trade negotiations affecting the sector.
- Beef producers associations are underdeveloped.

Cost of doing business

- There is a high reliance on expensive imported inputs including feeds, energy.
- Inefficiencies in the sector's support framework increase costs and risks for participants.
- The need to comply with a wide range of certification requirements and limitations in local testing facilities causes delays and increases costs.

Infrastructure and regulatory issues

Underdeveloped transport and communication infrastructure increases costs and disrupts access to supplies and markets

Botswana covers an area of 581,730 km² with a population of 2,038,228⁷³. The population density of 3.5 inhabitants per square kilometre poses a challenge for the government to establish linkages between communities and industries. A large proportion of cattle farms are located in remote areas,

⁷³ 2011 Population & Housing Census , Central Statistics Office, Republic of Botswana[

often tens of kilometres away from a tarred road and only accessible by a 4x4 vehicle. Similarly the communication networks of fixed lines and ADSL are restricted to the main towns. Mobile phone communication is increasingly substituting for the lack of fixed line infrastructure but it is limited outside big towns and partially alongside the main roads.

BMC lacks modern, flexible packaging facilities for exports

BMC manufacturing infrastructure has been lacking modernization and investment to meet current international levels. This is also reflected by the product portfolio current available. BMC is currently focused on selling big packs with limited branding and its products lack high-end packaging. BMC would benefit from investing in modernizing its packaging facilities and ensuring adequate flexibility that would allow its operations to adapt to changing demands from its customers.

BMC's monopoly on exports disrupts the value chain and the lack of competition discourages innovation

Private sector participation in the export of beef has been restricted by the BMC Act, allowing only BMC to export beef. The only export opportunity for private sector is through sales of processed meat products produced from raw material satisfying export standards. There is a growing demand from sector participants to lift the BMC monopoly.

Such a decision although considered necessary, should be implemented very carefully due to its multidimensional implications. A liberalized export market risks an oversupply of export grade meat benefiting few big private firms. If not carefully managed, lifting the BMC monopoly could also damage the image of Botswana's beef abroad.

BMC lacks the technology to promote commodity based trading of appropriately treated beef from the FMD affected zones.

The value of the cattle located in FMD affected zones is very low primarily due to their difficulty in accessing the domestic, regional and international markets. Besides the ongoing veterinary efforts to eradicate FMD from those zones, no alternative have been considered for increasing the local communities' income. The lack of the appropriate treatment technologies means that the meat cannot be economically heat treated and sold to South Africa as pre-cooked processed meat, nor maturing the meat to the point that the Ph drops below 6.0 and kills the FMD virus. Cattle from FMD with vaccination zones once properly treated and meat inspected could supply the domestic or regional markets whilst the cattle from FMD-free zones supply the export markets.

Politicization of sector prevents strict enforcement of some regulations

The contribution of the beef sector to exports has been reduced from 85% at independence in 1966 to less than 2% in 2013⁷⁴. Despite this drop, beef ownership is both part of Botswana's culture and it is very common across all socioeconomic layers of the population. Implementation of the legal framework related to beef has been facing challenges. These challenges are attributed to the lack of resources of qualified personnel in the field, the prevalence of temporary slaughtering facilities and the renewal of licenses for facilities that do not comply with the LMIA Act. In addition to technical limitations, political sensitivity is a key contributor for the lack of implementation of the legislation.

⁷⁴ 2012 Annual Agricultural Survey Report, Statistics Botswana

Import restrictions distort the market and limit scope for increasing the export of higher quality beef

The government has banned the import of chilled and frozen beef in order to protect and promote the development of the Botswana beef sector. The absence of cheaper beef imports means that some of the domestic cattle that could be exported at a higher value is consumed domestically. Should the production yields be improved and export sales prices increase due to quality improvement and branding, there is a risk of reducing the availability of beef for the domestic market unless beef imports are allowed. Beef imports would also reduce the seasonality of supplies to BMC.

Trade facilitation

There is limited technical and economic information available to sector participants

Sector participants do not have access to technical information, such as modern husbandry practices, latest EU standards and disease control methods. In addition, economic information, such as benchmarking performance indicators, prices in different cities and regions is lacking. This is partly contributed to by the lack of adequate extension officers, as well as limitations in their training. The dissemination of BMC prices often breaks down due to limitations in the information chain between BMC, the extension officers and local associations.

Botswana does not have access to meaningful independent export market intelligence

Since 2012 BMC has outsourced all commercial activities to GPS leaving the Commission with no in-house expertise in market intelligence. The overreliance on GPS is restricting BMC to directly access market data. All information related to market trends and specific consumer requirements are channelled via GPS. After the scaling down of the inefficient and costly UK branch, BMC Sales and Marketing department has been left understaffed, lacking the necessary skills to open new markets and/or develop new products.

There is very limited research into the sector's economics, diseases, etc.

The MOA's Department of Agricultural research is the main entity responsible for research in the sector. The department's research agenda is principally focused on areas such as breeding stock. There is very little research available in areas such as the technical and economic implications of the adoption of technology and the economics of different models of farming. Also, limited coordinated efforts have been invested into understanding how, for example, the FMD virus behaves in the Okavango Delta ecosystem, how it is transferred and spread amongst the cattle and wildlife populations.

Quality of the institutional support

Various stakeholders highlighted the poor service quality they receive from the support institutions. There is a lack of qualified people in the field and the limited resources are occupied in multiple tasks, sometimes of secondary importance for the sector.

Limitations in capacity at DVS leads to lack of flexibility, low commercial orientation and inconsistent official controls and enforcement

DVS has accumulated a wide range of responsibilities over an extended period, some of them not part of the department's core strategy. Various stakeholders have expressed their unhappiness on the quality of services provided by DVS. The complaints relate to the unavailability of extension officers, their lack of means of transportation and the inefficiency of implementing the LITS system.

Export related responsibilities among MOA departments is highly dispersed; and MTI needs to increase its involvement in trade negotiations affecting the sector.

Export-related responsibilities are spread among different departments of MOA (for example between DVS, responsible for regulatory issues; and DAP, in charge of animal production, genetics and breeding matters), BMC and MTI. As a result, in areas such as trade negotiations, efforts are often not pooled and there have been instances where different representatives of these institutions have attended meetings on the same topic in separate occasions. A more coherent team-oriented approach is needed. Similarly, more coordinated effort is needed in developing export markets, including BMC, MOA and MOFAIC.

Beef producers associations are underdeveloped

The role of the livestock producers is weak and there is a lack of coordinated efforts amongst their members. Most of the associations lack the necessary funds to become financially sustainable. Communication with their members is limited particularly when the members are in remote areas. Most of the associations have been established based on geographical criteria and as a result represent a wide spectrum of farmers with very diverse needs (small and large scale farmers, ranchers and communal farmers).

Cost of doing business

There is a high reliance on expensive imported inputs including feeds, energy

Despite numerous government efforts and initiative over the years to diversify the manufacturing sector, very little has been achieved and the manufacturing sector is limited, leaving for the majority of goods to be imported mostly from South Africa. Livestock feeds and inputs are not exceptions to this rule. The majority of the raw materials are imported, increasing the costs for the farmers.

Inefficiencies in the sector's support framework increase costs and risks for participants

The support institutions have acquired responsibilities that with the current resources and capacities are unable to honour. The inefficiencies of the support institutions lead to delays, increase costs for the farmers and disrupt the national and export supply chain. LITS is an example where despite the investment exceeding P200 millions over ten years, the system has been poorly implemented, resulting in losses for the farmers.

The need to comply with a wide range of certification requirements and limitations in local testing facilities causes delays and increases costs

The prospect of exporting to lucrative European markets has come at a cost for the local producers and local compliance authorities. A wide range of tests on the quality of the meat is necessary to ensure that the meat is fit for export. The National Veterinary Laboratory (BNVL) does not have all the necessary experience to conduct tests such as chemical residues and hormones. It therefore outsources the task of conducting these tests at laboratories as far as Europe incurring high costs and easily avoidable delays.

6.4. BORDER-OUT GEAR: MARKET ENTRY CONSTRAINTS

BORDER-OUT GEAR: MARKET ENTRY

Market access and policy reform

- There is a shortage of people, knowledge, expertise and focus on trade among policymakers.
- There is limited trade coordination at the SADC level and South Africa's interest at times differ from those of the rest of the region's countries. This weakens export negotiations.
- Reliance on exporting through South Africa poses risks of disruption.

Trade services support

- Reliance on one outsourced export agent presents a range of risks.

National promotion and branding

- There is no national and product level branding of Botswana beef.
- Botswana beef has limited product differentiation & targeting.
- There is heavy concentration on exports to South Africa and Europe, especially UK.

Market access and policy reform

There is a shortage of people, knowledge, expertise and focus on trade among policymakers

In addition to the existing agreements with the EU and South Africa, there appears to be a knowledge gap in how to conclude negotiations on trade agreements with other nations and unions of countries. People with the necessary skills and expertise are in short supply and there is a lack of clarity on roles and responsibilities.

There is limited trade coordination at the SADC level and South Africa's interest at times differ from those of the rest of the region's countries. This weakens export negotiations.

The majority of the trade and policy making negotiations in the SADC region is currently handled by individual countries. In the example of FMD policies at OIE, the SADC region has a disadvantage being a region where humans, cattle and wildlife share the same areas and resources. Coordination could benefit all the countries in the region. In addition, trade negotiations at the regional level are potentially weakened because South Africa has been granted separate free trade agreements with the EU, and is in a different position to other SADC members.

Reliance on exporting all Botswana beef through South Africa poses risks of disruption

South Africa and Botswana have long lasting cultural and trade links. BMC owns cold facilities in Cape Town where all the beef intended for exports is stored in transit. Botswana's over-dependency on South Africa poses a risk for future exports if the transport of meat is disrupted for some reason (FMD outbreak in South Africa, political and social unrest, etc.). Alternative routes for export, such as through Walvis Bay in Namibia and the Caprivi Strip need to be explored.

Trade services support

Reliance on one outsourced export agent presents a range of risks, including potential disruptions, loss of control over customer relationships and sub-optimal realization of national objectives

Similarly to developing a country diversification program, BMC as the sole national exporter, should strongly consider developing a strategy that would extend its export sales agency network. These agencies do not necessarily have to be external companies like in the case of GPS, but BMC could benefit from strengthening its sales and marketing team to explore and develop new markets in Africa, Europe and beyond.

National promotion and branding

There is no national and product level branding of Botswana beef

Botswana beef is of equal or higher quality compared with other countries in the region and worldwide. Despite that, it is sold as a commodity and lacks branding and relevant market claims. At both the national and international levels there is no communication with the public on the superiority of the Botswana beef. Despite the fact the majority of the cattle could be considered "free range", no such claim accompanies Botswana beef in the market. Botswana could benefit from a nation-wide campaign to promote beef as a national product and work with GPS to develop a relevant brand as it has been done in Namibia.

Botswana beef has limited product differentiation & targeting

As mentioned earlier in this report Botswana's beef exports are product rather than market-driven. The production facilities at BMC are set up for a limited range of cuts and there is an inconsistency of the quality of cuts. In order to diversify and explore higher valued markets, BMC needs to invest in the diversification of the products by understanding better the market needs and investing in the human capital and technology at its abattoirs.

There is heavy concentration on exports to South Africa and Europe, especially UK

With the exception of 2011⁷⁵, European countries and South Africa contribute over 99% of national beef exports. This poses a strategic risk as it was demonstrated in 2011 when beef exports to the EU fell by 80% to US\$17.8 million. BMC needs to proactively explore different export markets. BMC is currently seeking to diversify its exports away from the UK.

⁷⁵ In 2011, EU and South African exports represented 82% of the exports.

DEVELOPMENT GEAR

Poverty alleviation and employment generation

- Traditional communal practices constrain the sector's income generation and growth potential.
- Lack of commercialization limits capacity to generate employment.

Environmental sustainability and climate change

- Overgrazing, especially near boreholes, is contributing to environmental degradation and its impact is aggravated by disease outbreaks.
- Poor hygiene practices contaminate grazing areas.
- Livestock and wildlife co-management including fencing creates problems.

Regional development and integration

- There is a need for increased effectiveness in regional cooperation in areas such as trade negotiations, research and disease control.

Gender and youth inclusiveness

- There is low involvement of women and youth in sector.

Poverty alleviation and employment generation

Traditional communal practices limit the sector's income generation and growth potential

Over 80% of the cattle population is owned and managed by communal farmers. Three quarters of the cattle holdings own less than 50 heads. These farmers are located in remote areas and most of them use practices passed to them from previous generations. These practices are not always efficient or productive. In addition, most of the farmers have been herding their cattle in isolation not benefiting from economics of scales or other cooperative arrangements. Nevertheless, in the absence of a more inclusive banking sector, cattle does act as a safety net for unforeseen financial needs, albeit not a very efficient one.

Lack of commercialization limits capacity to generate employment

According to the Annual Agricultural Survey Report, the average offtake⁷⁶ amongst the commercial farmers in 2012 was 11.9% whilst the same rate for traditional farmers was only 6.9%. This is explained by the lack of commercialization amongst traditional farmers. Generating regular income from cattle is not always the traditional farmers' priority. The gap highlights the opportunity for the traditional farmers to increasing farm performance and income.

⁷⁶ Off-take = Sales – Purchase + Home Slaughter.

Environmental sustainability and climate change

Overgrazing, especially near boreholes, is contributing to environmental degradation and its impact is aggravated by disease outbreaks

Large parts of Botswana are very dry, lacking easy access to fresh water. In order to overcome this shortage, rural populations have drilled boreholes to serve both human and cattle consumption. Humans and cattle are therefore concentrated in small areas sharing same resources. Cattle, unlike small livestock, need relatively large quantities of water and cannot survive very far from water points.

Overgrazing is more evident near public and communal boreholes since the resources are shared amongst a larger number of community members. The sharing of boreholes and pasture areas amongst the community members and the relative limited means for disease management leads to more frequent disease outbreaks. The long-term impact includes loss of ecosystem functions and productivity, as well as reduction of quality of pastures and crop yields.

Poor hygiene practices contaminate grazing areas

Data provided by BMC shows that in 2013, 12.8% of the cattle that were offered at their abattoirs were infected with measles. Measles has been growing by 10% on average over the last two years. This disease is transmitted by human faeces due to poor sanitary practices in communal holdings, particularly peri-towns and peri-village.

Livestock and wildlife co-management including fencing creates problems

Tension between humans and wildlife is an ongoing problem in Botswana. The need to protect cattle from predators through fencing affect the latter's habitat. Damages caused to fencing and grazing areas by wildlife herds imposes costs on farming. Similarly, the sharing of natural resources by wildlife and cattle accelerates environmental degradation.

Regional development and integration

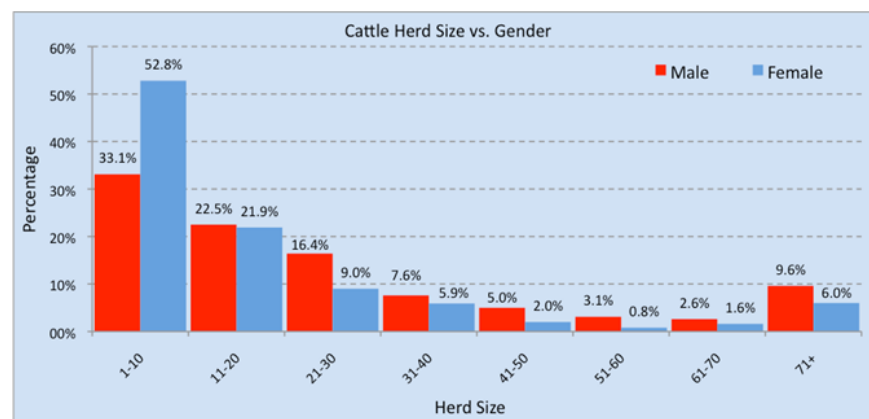
There is a need for increased effectiveness in regional cooperation in areas such as trade negotiations, research and disease control

There are various regional bodies, committees, associations and initiatives at SADC and SACU levels aimed at enhancing economic and developmental efforts in member countries. Nevertheless, due to differences in interests between members, or the lack of resources for implementing initiatives, their impact is often limited. Initiatives such as the SADC Promotion of Regional Integration (PRINT) Project have had limited impact to date. Areas such as trade negotiations, research and disease control require more effective coordination.

Gender and youth inclusiveness

There is low involvement of women and youth in sector

Figure 21: Gender distribution of traditional cattle holding



The cattle farming sector is dominated by male farmers. This could be explained by the fact that traditionally in Botswana society men adopted the role as herders. Women own 35% of holdings and 24% of cattle. 75% of communal holdings owned by female farmers have 20 or fewer head.

The equivalent proportion for males is 55%. Women could potentially play a greater role in the sector.

At the same time the participation of youth in the sector is worryingly small, with only 0.6% of the holdings owned by farmers aged 24 years or less. This can be explained by the lack of financial means to enter the sector through acquisition of cattle and land. Additionally, cattle is often registered under the names of senior family members. Youth do work as herders, but their numbers are limited and the income they receive is very low.

The less economically attractive Maun region shows the highest percentage of young female cattle holding owners, with 61% of female farmers equal of less than 24 years old coming from that region.⁷⁷ This is principally attributable to a result of a lack of job opportunities in the Ngamiland Region and a high proportion of female youth is engaged in cattle farming since it is the only major farming activity in the area.

⁷⁷ Data for this section was drawn from the 2012 Annual Agricultural Survey. Statistics Botswana. April 2014.

7. BEEF SECTOR EXPORT MARKET DEVELOPMENT AND VALUE OPTIONS

7.1. INTRODUCTION

There is considerable scope for improving the export performance of the Botswana beef sector. The sector's exports are currently concentrated in a very narrow range of frozen and chilled beef cuts, targeted mainly at South Africa, the UK, Germany and Norway. The principal options for diversifying the country's beef export base are considered in this section, broadly categorized into:

- Market penetration: increasing exports of existing products in current markets;
- Market diversification: increasing exports of existing products in new markets;
- Product diversification: increasing exports of new products in current markets; and
- Full diversification: increasing exports of new products in new markets.

In addition, the main options for strengthening the beef value chain are outlined in Section 7.3.

7.2. MARKET DEVELOPMENT OPTIONS

Export market development options for Botswana beef	
Market penetration Existing products to current export markets	Market diversification Existing products to new export markets
Existing products: ▪ Chilled ▪ Frozen cuts Currently exported to main existing markets: ▪ UK ▪ South Africa ▪ Norway ▪ Germany	Existing products: ▪ Chilled ▪ Frozen cuts To be exported to new markets: ▪ Italy ▪ Russia ▪ Sweden ▪ China, Hong Kong, Taiwan ▪ Angola ▪ Nigeria ▪ Zambia ▪ Middle East
Product diversification New products to current export markets	Full diversification New products to new export markets
New products: ▪ New specifications/tailored cuts ▪ Natural/certified beef ▪ Canned products ▪ Offal To be exported to main existing markets: ▪ UK ▪ South Africa ▪ Norway	New products: ▪ New specifications/tailored cuts ▪ Natural/certified beef ▪ Canned products ▪ Offal To be exported to new markets: ▪ Asian markets ▪ West Africa

As the box above highlights, considerable potential exists for developing export markets. Nevertheless, BMC is almost entirely reliant on a single sales agent for its exports, and lacks any meaningful capacity to access market intelligence. The Commission therefore has limited export marketing and sales capacity, and limited knowledge to effectively manage its outsourced export activities. Its plants can currently produce a very narrow range of cuts. These constraints need to be addressed as a prerequisite for launching an effective export diversification strategy.

Market penetration of existing markets with current products

Botswana's beef exports are currently almost exclusively concentrated on chilled and frozen boneless beef cuts. These are sold principally in 22kg boxes, although some initiatives are currently being undertaken to deliver more specific tailored cuts to targeted markets.

There is limited scope for expanding volumes in the existing key export markets. South Africa is a relatively unattractive market, mainly for lower margin frozen beef, and it is becoming increasingly competitive. It restarted importing chilled beef in 2013, but this segment remains relatively small. Norway is a very attractive market, paying prices that are more than twice that of other countries, but an annual quota of 1,600 tonnes limits further growth. UK is already the largest EU export destination, but further targeting of new customer segments could be undertaken to increase export volumes there. Nevertheless, at its peak in 2010, total exports to these markets were US\$158.4 million, so efforts can be undertaken to recapture lost customers and volumes, from the current export levels of US\$116.6 million. Part of the constraint relates to availability of sufficient qualifying supply at BMC.

The principal options for product penetration lies in improving the mix of exports by increasing the share of higher priced chilled beef, and strengthening the marketing of Botswana beef to achieve higher prices. In 2010, chilled beef accounted for 62% of the total, but in 2013 this segment accounted for only 35%. As Figure 4 has highlighted, there is a significant gap in prices between the two categories and a change in mix would make a significant contribution to increasing revenues.

The main unrealized potential for increasing product penetration, however, lies in effectively positioning Botswana beef as a premium brand. The country's beef has a number of premium characteristics, such as being grass-fed, hormone free and being naturally produced. Although the trend toward feedlotting potentially impairs some of these features, Namibia's successes in creating its Natures Reserves and Savannah brands highlights the potential. This is an important priority for Botswana's beef export strategy, which will also positively impact on the country's targeting of new markets.

Market penetration is considered as to be the most important of the four market development options in the short term, offering the largest potential for return on investment, and should be prioritized accordingly.

Product diversification with new products into existing markets

Opportunities exist in developing new cuts and secondary processing, although significant investment in technology and building capacity would be required to realize this potential. For example, cap off topsides could achieve significant premiums over existing cuts in some current markets, and in new markets, including Italy. Canned beef produced by BMC used to be compliant with UK requirements, but investment in new cannery technology and capacity would be needed to resume exports of these products to high value markets such as the UK. Potential also exists for

exporting to South Africa beef from the FMD affected Ngamiland area, if investment estimated at P20 million could be made in the requisite heat treatment technology.

As highlighted above, a key product diversification strategy should be to develop certified premium line products, such as grass-fed, hormone free, etc. Namibia's MeatCo Savannah brand would be a good example. Organic beef could be considered. However, given Botswana's relatively low scale of production and export potential, the costs involved throughout the value chain in developing organic beef produce may outweigh the benefits.

Product diversification options should be considered medium-term objectives, although certain elements of it, such as the export of Ngamiland beef to South Africa and other regional countries, could be prioritized and implemented sooner.

In the medium-term, one of the critical requirements for developing a sustainable canned beef export supply would require higher volumes, consistent supply of non-premium quality inputs. Given the production constraints in Botswana, this is likely to require relaxing the country's beef importing restrictions, for example for beef destined for secondary processing and re-export.

Market diversification into new export markets with existing products

Market diversification should be a key objective for Botswana beef. An important aim would be to reduce the reliance on, and the consequent risks associated with, a very narrow range of markets. BMC has been targeting alternative markets over an extended period. However, this work needs to be undertaken more systematically, based on robust market research and a coordinated and sustained set of actions. Potential markets for existing products are listed in the matrix in Section 7.2 and include:

- Italy: a promising new market for specific cuts, especially for new cuts currently being piloted. Preliminary research indicates that Italian customers are prepared to pay relatively high prices for Botswana produce.
- Certain other EU and wider European markets, including Sweden and Switzerland, offer premium prices and are likely to be attractive markets.
- Angola: High prices can be achieved for frozen and chilled beef (Botswana has been supplying this market with low volumes intermittently) and existing relationships can be strengthened. Barriers to export through Namibia's territory need to be overcome.
- Middle East. BMC has entered into a Memorandum of Understanding with a Kuwaiti distributor for supplying the entire Middle East. These types of relationships need to be proactively pursued, especially given BMC's ability to produce Halal certified beef.
- Russia is a potential markets for certain targeted cuts.
- Taiwan, China and Hong Kong are likely to be attractive markets for low volume, premium cuts.
- West African markets, including Nigeria, are also potential targets, although trade barriers may need to be overcome.
- Zambia is likely to be a promising market for quarter carcasses.

Full diversification of new products into new markets

Given BMC's current capacity and access to technology, and the inherent advantages offered by Botswana's premium quality beef, strengthening the country's positioning in fresh and chilled beef should be the priority. Nevertheless, exports of products such as offal and canned beef provide attractive opportunities for targeting new markets.

Asian and West African markets, the latter subject to overcoming trade barriers, could be targeted for offal, including cuts such as beef feet. Canned beef can also be used to target regional markets, where Botswana would have the advantage of being able to tailor recipes for local tastes.

The above analysis excludes the potential for BMC being able to increase its supply of secondary processed beef to the local market once the necessary investment in canning technology and skills has been made.

7.3. VALUE OPTIONS

The value options analysis is intended to identify opportunities for strengthening the effectiveness and efficiency of a value chain through:

- Acquiring value by improving efficiency within the national component of the value chain (and thereby enhancing the sector's competitiveness).
- Retaining greater value by reducing leakage from the national component of the value chain.
- Adding value by developing new product lines and/or extending the national component of the value chain.
- Creating value by increasing production of existing or new product lines or by entering the value chains of related sectors.
- Distributing value within the economy by increasing the sector's direct contribution to such national development goals as employment generation, poverty reduction, rural and regional development, gender equality and sustainability of the environment.⁷⁸

The analysis of the Botswana beef value chain suggests there is a large range of options for improving its performance. Some of the principal ones are:

Acquiring value

1. Develop more technically modern and commercial livestock management practices, especially at communal farms, to improve the sector's productivity and efficiency.
2. Improve efficiency and reduce cost at BMC.
3. Implement an upgraded and more effective LITS system and improve extension services.
4. Lift BMC export monopoly and introduce competition for exports to promote innovation and penetration and diversification of export markets.
5. Increase the availability of technical and economic information for sector participants.

Retaining value

1. Reduce reliance on import of expensive feed by increasing domestic production and promoting practices such as integrated farming.
2. Develop more export capacity at BMC to reduce high reliance on a single exporting agent.
3. Consider allowing the import of lower value consignment meat for secondary processing, including canning, to build sustainable export capacity in this area and also releasing higher quality domestic beef for premium priced exports.

⁷⁸ Drawn from ITC guidance on identifying value options

Adding value

1. Implement national and product level branding for Botswana beef in order to position it in higher price segments.
2. Develop capacity at BMC to export more tailored cuts in specified packaging to target new markets and segments.
3. Shift export mix from frozen to chilled beef.

Creating value

1. Invest in canning capacity and implement a strategy for the export of canned beef products.
2. Implement strategy to increase the export of offal products to selected markets.
3. Develop linkages with the value chain of other sectors, such as other ruminants and game, to share infrastructure and services.
4. More proactively promote Botswana and BMC branded meat, and an updated ECCO brand, in the domestic tourism sector to enhance brand recognition and acceptance.

Distributing value

1. Improve hygiene and other practices, especially in peri-urban and peri-village areas, to reduce environmental degradation and spread of diseases.
2. Introduce land and water management practices around boreholes to reduce overgrazing and bush encroachment.
3. Strengthen current initiatives to promote the engagement of women and youth in the sector, for example, through more focused commercially oriented training.
4. Extend export value chain to Ngamiland beef by carrying out necessary research and promoting investment in necessary technology.

8. PROPOSED STRATEGY

8.1. INTRODUCTION

This section presents the key elements of the proposed strategy for strengthening the performance of Botswana's beef exports, drawing on the analyses in the preceding parts of the report and the SWOT analysis below.

The vision statement seeks to serve as a guide for the future direction of the sector and summarize its aspirations. Seven strategic objectives have been identified to provide the implementation framework to achieve the vision. Section 9 provides a roadmap of activities that require implementation to achieve each of the objectives.

8.2. SWOT ANALYSIS

Strengths	Weaknesses
▪ High proportion of free-range naturally produced beef. ▪ Stringent production standards, especially in processing. ▪ Meeting EU requirements. ▪ Botswana's positive image compared with many other African countries. ▪ Long cattle producing tradition. ▪ Extensive government support schemes.	▪ Ineffective and inefficient LITS system. ▪ High proportion of cattle in FMD-infected zone and prevalence of beef measles. ▪ Weak extension services. ▪ High cost structure. ▪ Lack of commercial and modern farming practices. ▪ Poor infrastructure. ▪ Inconsistent enforcement of standards. ▪ Lack of branding and absence of marketing capability. ▪ Support infrastructure for industry not meeting needs fully. ▪ Lack of competition in exports limits product innovation and market development. ▪ Poor awareness of regulatory compliance at primary production level.
Opportunities	Threats
▪ Preferential access to EU markets. ▪ Unexplored markets in region and internationally, with increasing imports in emerging markets. ▪ Import substitution to export higher value beef. ▪ Reduce input costs by producing feeds locally. ▪ Targeting higher value segments and commanding better price with branding and premium cuts.	▪ Reliance on a small number of markets targeted with a very narrow range of products. ▪ Reliance on one outsourced entity for entire country's exports. ▪ Disease outbreaks and droughts. ▪ Increasing competition in global markets. ▪ Reliance on imported inputs. ▪ Increasingly stringent and costly EU requirements

The FAO Report provides a comprehensive SWOT analysis of the entire beef value chain. The above SWOT summary, with an emphasis on exports highlights:

- The sector's strengths lie mainly in its production of high quality beef, drawing on historic traditions. Botswana's positive image as a politically stable country in the region also provides advantages.

- The sector suffers from a number of weaknesses. The majority of cattle production is carried out inefficiently, in communal areas. Heavy government intervention, occasionally distortive (such as the lack of export liberalization) and at times ineffectively implemented (as in the LITS) system increases costs and risks. The support environment is often weak, or absent. The absence of branding and effective market positioning represent an opportunity foregone for the entire value chain.
- Many of the weaknesses also reflect substantial opportunities for improving the beef sector's performance. There is considerable scope to increase export prices, farm productivity and the support infrastructure, and reduce costs in the value chain. These, together with more proactive export diversification could have a significantly positive impact on the economic performance of all the segments in the value chain. Nevertheless, a concerted and coordinated course of action, and targeted investments, would be required to realize these opportunities.
- Many of the threats posed to the sector consist of risks, such as increasing competition, droughts and reliance on imported inputs are external to the sector. Nevertheless, action can be taken by its participants to alleviate their impact, such as by increasing competitiveness and implementing better environmental practices. Of immediate concern are risks posed by concentration in export markets and products, and reliance on one outsourced export agent. It is critical that effective, immediate action is taken to diversify and limit these risks.

8.3. STRATEGIC VISION FOR EXPORT MARKETS

Our proposed vision statement for the export channel of the beef value chain is:

‘A highly recognized producer associated with superior quality meat competitively targeting high value markets and segments, and commanding a premium price’

The statement is intended to highlight the objectives of:

- Achieving recognition, through branding and promotion.
- Association with premium quality meat, which entails implementing action throughout the value chain and its support services to produce high quality products that are delivered consistently and efficiently.
- Competitiveness, which requires increasing efficiency and reducing costs along the value chain.
- Targeting of high value markets and segments, through a range of tailored premium products aimed at a diverse set of export markets.

Botswana is a relatively low volume producer and exporter of beef in the global context. Unless import restrictions, for instance of lower cost and quality beef, are lifted, the amount of beef available for export will reduce further over time. The cost-benefit of activities would need to be carefully analysed in meeting various strategic objectives and implementing the proposed roadmap. For example, although diversification in products and markets is desirable, there are limits to how much this can be achieved before the resources required outweigh its benefits.

8.4. STRATEGIC OBJECTIVES

The sector's export vision could be realized through achieving the seven strategic objectives outlined below. Each objective has been prioritized as urgent (UR), very high (VH), or high (H).

	UR	VH	H
1. Improve the effectiveness of DVS and its services to the sector.	●		
2. Intensify efforts to find multiple solutions for cattle from FMD-infected areas.	●		
3. Enhance product and market positioning of Botswana beef and diversify exports.	●		
4. Strengthen the performance of communal livestock farming.		●	
5. Further restructure BMC and relax its export monopoly.		●	
6. Develop a more useful support network for the sector's value chain.		●	
7. Improve regional cooperation on issues affecting the countries' livestock sectors.			●

Strategic objective 1: Improve the effectiveness of DVS and its services to the sector

DVS is the most important support provider for the beef sector, affecting all aspects of the value chain. Its successes and limitations have equally benefited and hampered the sector. Whilst the quality of DVS staff generally is high, in accumulating a range of responsibilities over an extended period it now lacks adequate resources to discharge all its activities effectively. Setting up an effective LITS framework is both critical and urgent. A coherent and well-coordinated approach is also needed to outsource or privatize a range of its services, including those relating to LITS management, food inspection and perhaps extension services. Capacity building, restructuring and research are also required in various areas within its remit.

Section 10.3 outlines a set of projects that recommended to contribute toward the achievement of this objective.

Strategic objective 2: Intensify efforts to find multiple solutions for cattle from FMD-infected areas

FMD affected areas cover 10% of the cattle population, but impact disproportionately on the small farmers seeking to grow livestock in them. In addition to enhancing the effectiveness of the current focus on controlling and eradicating FMD in the affected zones, for example through more targeted research, this strategic objective is aimed at developing alternative parallel solutions. These include more coordinated research and trade negotiations on CBT; investing in technological solutions to enable the export of FMD zone beef; removing current bottlenecks in trading beef from the "red" to "green" zones; and improving the awareness of policymakers and consumers on the associated issues and risk management practices relating to FMD beef.

Strategic objective 3: Enhance beef product and market positioning and diversify beef exports

One of the most important strategic objectives, effective branding and market positioning of Botswana beef would enable higher export prices to be realized. Combined with BMC's own restructuring and the achievement of reduced operating costs, realizing this goal would enable the distribution of greater value along the entire value chain and facilitate commercialization of the sector. This objective would aim to achieve branding; capacity building in market research and marketing; development of new cuts and products targeted at new markets; installation of new packaging lines at BMC; and increased capacity for supporting beef exports at Botswana's trade missions or by its diplomatic representatives stationed overseas.

Strategic Objective 4: Strengthen the performance of communal livestock farming

This is a critical objective, on which the performance of the entire sector depends. Whilst it is inevitable that a significant proportion of the smaller livestock holders will continue to operate at a subsistence level for the foreseeable future, there remains the potential to considerably improve the performance of many communal farmers, impacting on the sector's profitability. This will require capacity building at the farm and SMME level; building scale through the encouragement of syndications; reducing costs through promotion of integrated farming; and considerably enhancing the availability and quality of support services.

Various attempts have been made in this area by the government and international donors, but this analysis suggests that interventions could be designed and implemented more effectively to improve the prospects of success. One of the interventions proposed and summarized in Section 10.2⁷⁹, relates to carrying out pilots in communal farming in order to achieve this strategic objective.

Strategic Objective 5: Further restructure BMC and lift its export monopoly

BMC dominates the beef value chain, and in particular its export channel. Its procurement activities and sales in the domestic market affect the prospects of other processors. It is the only route to export for all producers. Botswana's beef export performance is therefore integrally connected with that of BMC.

This strategic objective seeks to open up the export channel by lifting BMC's monopoly. At the same time, it recognizes that there is a need to address the impact such a move would have, for example on smaller farmers who are currently subsidized by BMC. In preparation for the lifting of the monopoly and to improve the institution's operating efficiency, various restructuring activities would need to be undertaken at BMC. The BMC Act would also need to be reformed to provide BMC independence from the government and enable it to operate truly commercially.

⁷⁹ Details of proposed projects are provided in Annex II.

Strategic objective 6: Develop a more useful support network for the sector's value chain

Although the beef sector benefits from considerable government assistance in relation to its economic contribution, its support institutions and the business environment continue to have important gaps and weaknesses. The strategic objective is aimed at strengthening a wide range of services including: the availability of technical and economic information; improved targeting of training; strengthening beef producers associations; enhancing the capacity of and coordination between government agencies; and improving trade negotiations.

Strategic objective 7: Improve regional cooperation on issues affecting the countries' livestock sectors.

As a small exporter in markets dominated by large beef producers, it is critical that Botswana coordinates its efforts with other regional exporters to achieve scale and negotiating power. In addition, cooperation in areas such as research, disease control and among industry associations would benefit the value chains in all the partner countries. Collaboration at SACU and SADC level are particularly relevant on this regard.

9. STRATEGIC ROADMAP FOR THE BEEF SECTOR

9.1. INTRODUCTION

The section below outlines the roadmap for achieving each of the strategic objectives. Each of the proposed actions has been marked as either urgent (UR), very high priority (VH), or high priority (H).

9.2. FURTHER ENHANCING DVS PERFORMANCE

Strategic objective 1: Improve the effectiveness of DVS and its services to the sector.

	UR	VH	H
1.1 Realign DVS organization and strategy to meet user needs and outsource selected non-core activities.	●		
1.2 Implement initiatives to control the spread of FMD and measles in cattle.	●		
1.3 Improve cattle traceability and compliance with LITS regulations by moving rapidly to electronic ear tags.	●		
1.4 Increase degree and consistency of the enforcement of food safety regulations.	●		
1.5 Enhance Botswana National Veterinary Laboratory's capacity to meet industry needs.		●	
1.6 Strengthen Livestock Advisory Centers.		●	

Realign DVS organization and strategy to meet user needs and outsource selected non-core activities

The DVS has over the years accumulated a wide range of responsibilities. Some of them are beyond its core mandate and hamper the department's efforts to deliver quality services to farmers. There needs to be a realignment of DVS strategy and non-core activities outsourced to the private sector (SMEs, farmer associations, etc.). DVS will then be able to reallocate resources to improving the services it provides to the farmers.

Lead responsibility: DVS

Implement initiatives to control the spread of FMD and measles in cattle

Botswana's FMD policy focuses on the eradication of the disease, as per OIE's standards. This task is unlikely to succeed due to the co-existence of wildlife and cattle in Ngamiland district. In addition policies are not coordinated within SADC where wildlife moves across national borders. An alternative approach should look at the available market channels for the FMD infected cattle besides being destroyed or used for canned food. For example a pilot to monitor the movement of both cattle and wildlife in the region could help understand in detail how the disease is generated and spread.

Measles control requires more urgent efforts, including improving education, hygiene practices at farms and mechanisms for early detection of the disease.

Lead responsibility: DVS

Improve cattle traceability and compliance with LITS regulations by moving rapidly to electronic ear tags

During consultations, the LITS system systematically featured as the main complaint from stakeholders. **This issue is identified as the single area where a difference needs to be made.** The rollout of LITS needs e.g. to be outsourced to a third party who will be responsible for uploading the information on the central server promptly and accurately, and ensure that all cattle carry the ear tag. The LITS database should integrate all other databases related to diseases, inputs and medicines. Finally the implementation of the digital ear tag should be launched as soon as possible.

Lead responsibility: DVS

Increase degree and consistency of the enforcement of food safety regulations

The LMIA act is based on *Codex Alimentarius*⁸⁰ and it is arguably a solid piece of legislation. There should be an enforcement of LMIA across the beef sector, primarily focusing on the abattoir and slaughtering slabs operations. Private meat inspectors should be enabled to apply the same quality and hygiene standards for the domestic market as for the export market. Additionally, there should be no temporary slaughtering facilities, particularly when the temporary license has expired and access to finance should be provided to those who are interested in starting up a private abattoir.

Lead responsibility: DVS

Enhance Botswana National Veterinary Laboratory's capacity to meet industry needs

The BNVL has a strong technical team and most of the tests are carried out internally. However, residue tests are routinely outsourced to a laboratory in the UK although the necessary equipment to carry out the tests at BNVL was acquired more than six years ago. The BNVL staff need to be trained to use this equipment. This would significantly reduce the lead times for and costs of the tests. Additionally, one or more local laboratories should be identified for outsourcing a number of other tests, should BNVL not have adequate human and technical resources to carry them out promptly.

Lead responsibility: DVS

Strengthen Livestock Advisory Centres

LAC role needs clarification particularly after its likely forthcoming merge with Botswana Agricultural Marketing Board. The LAC advisory role needs to be retained if the merger goes ahead.

Additionally, distribution chain bottlenecks relating to LAC supplies should be identified and addressed so that the availability of goods is improved. Also, efforts are needed to identify more closely the inputs and medicine required by farmers in the local area so that LAC stock more relevant products in their stores. LAC would also benefit from centralized procurement and an improvement in their stock management practices.

Lead responsibility: DVS, MOA

⁸⁰ <http://www.codexalimentarius.org/>

9.3. FINDING COORDINATED SOLUTIONS FOR FMD-RELATED ISSUES

Strategic objective 2: Intensify efforts to find multiple solutions for cattle from FMD-infected areas.

		UR	VH	H
2.1	Improve epidemiological understanding and control over FMD.	●		
2.2	Increase export of beef from “red zone”	●		
2.3	Enhance awareness and acceptability of risk management and risks related to FMD area beef and carry out risk assessment study to demonstrate effectiveness of risk management.	●		
2.4	Develop more systematic and strategic regional cooperation on CBT exports.		●	
2.5	Validate effectiveness of purified FMD vaccine and implement strategy for its use.		●	
2.6	Diversify processing capacity outside BMC to develop technical capacity to process red zone beef for selling to the FMD-free “green zone”.		●	
2.7	Review and improve layout and condition of buffalo fencing in Ngamiland.		●	
2.8	Explore quarantine of FMD area cattle for export to targeted importing countries.			●

Improve epidemiological understanding and control over FMD

In addition to the efforts to eradicate diseases such as FMD, the DVS should take the lead to conduct scientific research on understanding scientifically the impact of FMD across the value chain for both humans and cattle, identify and propose innovative solutions both for control of the disease and for using the cattle from the FMD with vaccination zones. Additionally, pilots should be undertaken to validate the efficacy of the FMD vaccines being produced by BVI.

Lead responsibility: DVS

Increase export of red zone beef

Botswana needs to find a viable long-term solution for leveraging the value of cattle in zones considered as “red” for FMD management purposes (Ngamiland and Tuli blocks and Nata district). In the past, cattle from this area was either culled or slaughtered for canned food, leaving the local farmers with insufficient incomes. . The selling of boneless beef in all of the domestic market, undergone maturation, from these zones is already allowed. For Tuli block and Nata district, the boneless beef can also be exported to regional markets. Strategies need to be developed and implemented for converting parts of these districts into green zones and to protect its new status. Additionally investment on the right heat treatment technology will enable selling the meat to South Africa for further processing

Lead responsibility: MOA, DVS, and MTI

Enhance awareness and acceptability of risk management and risks related to FMD area beef and carry out risk assessment study to demonstrate effectiveness of risk management

The general public have the right to better communication on the health risks posed by the FMD virus on both animals and humans. In addition, the risk assessment practices should be better communicated to ensure the general public that the meat sold is both FMD free and safe to eat. A pilot program to demonstrate the effectiveness of the risk assessment will be necessary. In addition, awareness raising workshops and training aimed at politicians and policymakers need to be implemented.

Lead responsibility: DVS

Develop more systematic and strategic regional cooperation on CBT exports

A regional approach to address the FMD problem needs to be undertaken by the SADC countries. Wildlife movements across borders will hamper any local and national efforts to eradicate FMD. Instead the countries surrounding the Caprivi Strip and the Okavango Delta need to coordinate their efforts for developing a CBT-based trade that would benefit farmers and consumers alike. At policymaking level, Southern Africa has the particularity of the co-existence of human, cattle and wildlife on the same territory. A SADC committee should be formed to advocate the region's interests at OIE.

Lead responsibility: MOA, DVS, and MTI

Study and validate effectiveness of purified FMD vaccine and implement strategy for its use

Purified FMD vaccine, currently produced by BVI, is scientifically accepted as being able to distinguish infected cattle from non-infected ones. Further work needs to be undertaken to validate its efficacy. A coordinated effort between producers, policy makers and BVI is then needed to increase its acceptability among a wider audience, so that cattle injected with such vaccines can be more easily traded.

Lead responsibility: MOA, BVI

Diversify processing capacity outside BMC to achieve technical requirements for selling to green zone

Technologies exist to treat red zone meat so that it can be sold in the green zone and in targeted export markets. However, the value chain for such meats is constrained by the lack of available capacity for such processing. MOA, in partnership with CEDA, should promote the establishment of smaller processing facilities for this purpose in the red zone.

Lead responsibility: MOA, CEDA

Review and improve layout and condition of buffalo fencing in Ngamiland

With a better understanding of the wildlife movements an improved layout of the fences can be implemented. This can be done in partnership with international organizations such as WWF and OIE, to ensure that the solution is benefiting both the farmers and the wildlife. The recent inclusion of Okavango Delta to UNESCO's world heritage list⁸¹ as the 1000th site has provided renewed impetus and raised awareness on the need for this task.

Lead responsibility: DVS

Explore quarantine of FMD area cattle for export to other eligible import countries

This option relates to the export of live cattle from the FMD affected zone, after quarantining the animals for between 14 and 21 days. Such animals could potentially be exported to Zimbabwe and South Africa. This approach has been discussed over the period, and a more concerted regional approach is now required to agree the parameters and proceed with implementation.

Lead responsibility: DVS, MOA

9.4. REPOSITIONING BOTSWANA BEEF AND STRENGTHENING BMC EXPORT CAPACITY

Strategic objective 3: Enhance beef product and market positioning and diversify beef exports.

	UR	VH	H
3.1 Build market intelligence gathering and analysis and R&D capacity at BMC.	●		
3.2 Develop export marketing and sales capacity at BMC.	●		
3.3 Develop appropriate brand, packaging, logo, etc. for Botswana beef, including for example grass-fed beef.	●		
3.4 Install new packaging lines at BMC.	●		
3.5 Diversify beef export product range and target new markets.		●	
3.6 Increase capacity of Botswana trade missions to promote beef exports.		●	

Build market intelligence gathering and analysis, and R&D capacity at BMC

BMC has traditionally had little in-depth market intelligence gathering and analysis capacity in Botswana, having previously relied on BMC UK and currently dependent on GPS. This capacity needs to be developed systematically, through the strengthening of its sales and marketing function and investing in appropriate systems and training.

In addition, a R&D function should be established to test different specifications and secondary processed products. In addition to in-house capacity, and especially at early stages, BMC should outsource some of its R&D activities, for example to NFTRC on secondary processed beef and BCA on less applied areas.

Lead responsibility: BMC

⁸¹ <http://whc.unesco.org/en/news/1159>

Develop export marketing and sales capacity at BMC

In parallel with its market intelligence gathering capacity, BMC needs to build a strong marketing and sales capability. This capacity needs to be developed through increased staffing with relevant skills, training and investment in appropriate systems. The importance of the strengthened function needs to be recognized through a change in the organization structure. Ideally, this function should be discharged by a self-contained corporate department, reporting directly to the Chief Executive Officer. Currently the marketing function reports to the Chief Financial Officer.

Lead responsibility: BMC

Develop appropriate brand, packaging, logo, etc. for Botswana beef

There is very little awareness outside Botswana on the quality of Botswana beef. Following the example of countries such as Namibia, Botswana should invest in developing a brand for Botswana beef and more broadly seek to increase awareness amongst consumers. The development of an appropriate logo and the use of innovative, quality-oriented packaging, reinforced by promotional and advertising campaigns would highlight the premium nature of Botswana beef. This initiative should run parallel with development of a secure procurement and production plan that ensures consistent availability of product at its retail channels.

Lead responsibility: BMC

Install new packaging lines at BMC

Packaging is one of BMC's weak areas, with a substantial part of the final packing done at wholesalers and large retailers abroad. BMC should take more control of packing meat in consumer-ready packs. Selling packed goods will allow BMC to fetch higher prices from retailers and enable BMC to promote Botswana beef brand appropriately applying the appropriate labels on the packs. Better packaging may also allow for longer shelf lives and ensure better transport conditions.

Lead responsibility: BMC

Diversify beef export product range and target new markets

BMC should develop a better understanding of consumer needs and expand its portfolio of products. In addition, BMC should also systematically pursue the establishing of sustainable market links both in Africa as well as within European Union. For example ITC Trade Map⁸² data shows that the UK, Botswana's focus market in the EU, pays on average 25% less than Italy and 33% lower than Germany for boneless bovine cuts. New products and markets, such as those highlighted in the market development analysis in section 7.2, should be explored systematically through market surveys related to product, segment, packaging, cuts, etc. in key existing and target markets.

Lead responsibility: BMC

⁸² <http://www.trademap.org/>

Increase capacity of Botswana trade representatives to promote beef exports

The government acknowledges the strategic position of the beef sector in its drive to diversify the economy. These efforts need to be coordinated at institutional level to promote Botswana beef abroad, particularly in light of the efforts to build an international brand and diversify export markets) Trade representatives in embassies need to be educated about the strengths of Botswana beef. Officers of the national diplomatic missions, supported by the Ministry of Foreign Affairs and International Cooperation (MOFAIC) and MOA, DVS and BMC staff as appropriate should join trade experts in promotional missions.

Lead responsibility: BMC, MOFAIC

9.5. STRENGTHENING COMMUNAL FARMING

Strategic Objective 4: Strengthen the performance of communal livestock farming.

	UR	VH	H
4.1 Strengthen and commercialize traditional livestock management practices.	●		
4.2 Develop more effective coordination between the MOLH and MOA on allocating land for livestock.	●		
4.3 Promote clustering and syndication among small and medium-sized farmers.		●	
4.4 Promote cattle and feed integrated farming.		●	
4.5 Improve access to finance for small and medium-sized cattle farmers.		●	
4.6 Develop and implement Farm Quality Assurance Standards.		●	
4.7 Promote FDI into the livestock sector.			●
4.8 Review longer-term impact on sector of BMC pricing policy and trend toward feedlotting.			●

Strengthen and commercialize traditional livestock management practices

The productivity of communal farmers, which account for 88% of Botswana's cattle holdings, is by many measures less than half of those of Botswana's commercial farms. It is even lower compared with international competitors. Although resources have been spent in improving farming practices, more intensive work is required, appropriately resourced and targeted, to achieve results. Research is needed into the economics of different farming models. Training is required targeted at all levels, including technical training for farm labourers. Dissemination of best practices would also be included in the action plan. The proposed pilot on strengthening communal farming practices (see Section 10) is aimed at addressing many of these issues.

Lead responsibility: MOA

Develop more effective coordination between the MOLH and MOA on allocating land for livestock

At present, the system of land allocation is fragmented, with district Land Boards allocating land for cattle farmers on different bases and sizes. As a result, the land allocated is often not appropriate for the type of farming envisaged, and a significant proportion of land earmarked for livestock farming is not utilized. More systematic coordination is needed between MOA and MOLH, and between the latter and Land Boards, so that appropriate type, location and size of land is allocated for cattle farming and land that is not used for a period is reallocated to farmers that seek to engage in cattle farming.

Lead responsibility: MOA

Promote clustering and syndication among small and medium-sized farmers

One of the major constraints faced among farmers to achieve economic viability and implement commercial farming practices is their lack of scale. In 2012, the average holding in communal farms was only 27.5, and 81% of holdings had 150 or less cattle. More systematic collaboration is required among farmers ranging from sharing feeds and supplements, administration and marketing to achieve viability. A concerted policy with incentives needs to be implemented to encourage clustering and syndications, especially in the communal farming segment.

Lead responsibility: MOA

Promote cattle and feed integrated farming

Input supplies have to be imported almost entirely and is relatively expensive compared with other regional countries. Supplementary grass or grain feed is required to reduce total reliance on natural grasslands and reduce overgrazing, to promote more consistent quality of beef and to generate a more even supply of cattle throughout the year. Policies need to be introduced to promote integrated farming, whereby feed is grown alongside cattle.

Lead responsibility: MOA

Improve access to finance for small and medium-sized cattle farmers

Third party finance is unlikely to be viable for the smaller farmers that are not producing cattle on an economic scale. Nevertheless, there is a significant segment of the communal holdings that are potentially commercial. At present one of the major constraints they face is the lack of capital, and more importantly working capital finance to grow their herds to slaughter weight. As a result they sell their cattle as weaners, foregoing potential profits (although others may find this option of weaning off calves from mothers in order to improve herd calving rates preferable). Supply chain finance, based on contracts with processors such as with BMC, needs to be promoted more systematically. BMC currently has a guarantee scheme with Standard Chartered Bank, and this type of approach needs to be extended to a wider range of farmers.

Lead responsibility: MOA

Develop and implement Farm Quality Assurance Standards

At present, although the LMIA provides basic safeguards on production and processing practices, third party quality standards only apply to beef earmarked for exports to EU and to certain key customer. A national Farm Quality Assurance Standard that would give assurance to consumers about the quality of the production methods used, the quality of care for animals which is practiced, the quality of the farm environment, and the quality of practices in producing beef that is wholesome, safe and free from unnatural substances. This would incentivize farmers, through greater acceptability and higher prices, to improve production methods. A model could be the Meat Board of Namibia's Farm Assured Namibian Meat (FAN Meat) scheme, which promotes free-range, hormone-free beef with guaranteed veterinary and animal welfare standards.⁸³

Lead responsibility: MOA, BOBS

Promote FDI into the livestock sector

It has been difficult to determine the magnitude of FDI in cattle production, but consultation with stakeholders suggests that it is probably very low. The BITC website⁸⁴ lists only one feedlotting opportunity, and some general cattle and game ranching possibilities, among investment options in the sector. In addition to finance, FDI would enable the enabling of know-how of modern management practices in the sector and should be promoted. However, the lack of export liberalization is likely to remain an important barrier to FDI in the sector and needs to be addressed as a prerequisite.

Lead responsibility: BITC

Review longer-term impact on sector of BMC pricing policy and trend toward feedlotting

BMC's pricing policy, whereby its quality grading and pricing favours weaners compared with more mature cattle encourages farmers to sell their stock as weaners, encouraging the trend toward feedlotting. As more premium priced segments in export markets demand more naturally grown beef, this trend could be counterproductive in the long-run and act as a barrier to Botswana beef's positioning as a premium brand. Moreover, producers of EU quality beef subsidize the price paid to producers of beef not eligible for export to EU, reducing the returns and incentives related to producing premium quality beef. These potential consequences need to be studied and appropriate action taken to safeguard the sector's future potential.

Lead responsibility: MOA, BMC

9.6. FURTHER REFORMING BMC AND LIFTING EXPORT MONOPOLY

Strategic Objective 5: Further restructure BMC and relax its export monopoly.

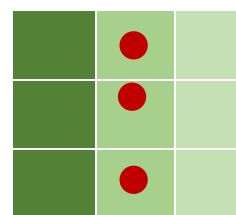
- 5.1 BMC to meet international benchmarks in processing.
- 5.2 Reform the BMC Act.
- 5.3 Lift the BMC export monopoly.
- 5.4 Introduce regional procurement centers at BMC.

UR	VH	H
●		
●		
●		
	●	

⁸³ FAO Report.

⁸⁴ www.bitc.co.bw reviewed in early July 2014.

- 5.5 Explore supply chain finance solutions with range of finance providers.
- 5.6 Review and update BMC's ECCO brand for packaging secondary processed beef.
- 5.7 Establish an institution similar to the Meat Board of Namibia to provide sector-wide support after export liberalization.



Reform the BMC Act

The BMC Act needs to be reviewed and updated to provide BMC with independence and enable it to operate commercially. This would require it to be separated from MOA (especially independence from control of the Ministry of Agriculture), incorporate and secure private investment. A model of ownership by livestock farmers should be considered. In parallel to legislative issues, a solution needs to be found for BMC's current indebtedness to the government, and its financial and working capital model restructured and optimized. A number of proposals outlining options for achieving these objectives already exist and implementation needs to be accelerated.

Lead responsibility: MOA

Lift the BMC export monopoly

This urgent action needs to be implemented very carefully. Risks need to be addressed effectively. One example is the potential impact on key stakeholder groups such as smaller livestock farmers need to be addressed appropriately. Another is the continuity of supply and export operations. Finally another consideration would be to prevent the risk of replacing one monopoly with another. A regulatory framework would also need to be developed to ensure parity of treatment for all exporters. Nevertheless, on balance the BMC export monopoly has held the sector back over an extended period and concerted action is needed to liberalise the export market, whilst mitigating the above risks.

Lead responsibility: MOA, BMC

BMC to meet international benchmarks in processing

Various studies have highlighted that BMC processing performance needs to be considerably improved in order to meet international benchmarks. Efforts need to be considerably strengthened in order to realize cost and processing efficiencies. Benchmarking targets, based on industry averages and eventually industry best practice (see Section 3.4) need to be established and implemented over a five year period. Areas of focus would include: reduction of non-processing costs; improvements in compliance systems; strengthening of procurement practices; integration of accounting systems; and review of current and future viability of Francistown plant and appropriate action.

Lead responsibility: BMC

Introduce regional procurement centres at BMC

One of the key barriers for small cattle farmers in supplying BMC is the lack of efficient transport infrastructure in delivering cattle to BMC plants. As a result, difficulties in moving around the cattle compel farmers to forego the opportunity to earn premium BMC prices, even if they produce high quality cattle. Often they sell to intermediaries who extract a margin. Establishment of regional procurement centres would remove a major barriers to supply of ready-to-slaughter cattle for exports and increase incentives for producing higher quality cattle. In the case of weaners, the Direct Cattle Purchase (DCP) program already caters for regional and rural procurement. Establishing the financial viability of such centres require further analysis.

Lead responsibility: BMC

Explore supply chain finance solutions with range of finance providers

BMC currently has an arrangement with Standard Chartered Bank to guarantee finance for producers supplying it with cattle. This arrangement needs to be extended to a wider range of finance providers to reach more suppliers. Options include financing against orders or purchasing contracts, supplier guarantees or producer financing of, say, inputs.

Lead responsibility: BMC

Review and update ECCO brand

BMC sells its canned and processed meat under the ECCO brand. The brand has existed for many decades and has not been refreshed. It requires updating. In addition, the practice of selling both meat for human consumption and pet food under the same brand should be stopped and different brands developed for these two markets.

Lead responsibility: BMC

Establish institution similar to the Meat Board of Namibia to provide sector-wide support after export liberalization

In a de-monopolized beef export environment, a wider range of exporters and domestic producers, rather than just BMC, would require a number of appropriately coordinated export support services, including the marketing and promotion of the industry as a whole. Other services could include market research, benchmarking studies and developing and promoting the proposed Farm Quality Assurance Standards. An appropriate support institution, led by the private sector but also involving the government should be established. The Meat Board of Namibia may well provide a suitable model on this regard.⁸⁵

Lead responsibility: MOA

9.7. IMPROVING THE SECTOR'S SUPPORT NETWORK

Strategic objective 6: Develop a more useful support network for the sector's value chain.

		UR	VH	H
6.1	Develop and deliver appropriate technical training for farmers at all levels on all aspects of farming.	●		
6.2	Improve the availability and distribution of scientific, economic, standards, regulations, markets and consumer-related information.		●	
6.3	Improve process related to certification of cattle movement.		●	
6.4	Strengthen local livestock associations and Botswana National Beef Producers Union.		●	
6.5	Enhance capacity of government agencies to support sector.		●	
6.6	Enhance DAP's effectiveness.		●	
6.7	Build capacity in conducting trade negotiations related to the beef sector.			●
6.8	Enhance BVI's long-term sustainability.			●
6.9	Produce and disseminate more relevant research for sector.			●
6.10	Increase investment in farm infrastructure.			●

Develop and deliver appropriate technical training for farmers at all levels on all aspects of farming

The Rural Training Centres, along with the BCA, provide good quality technical training in the sector. The curriculum often has gaps in in-depth training on the business aspects of farming. Moreover, training is directed at farm owners and not necessarily the workers undertaking day-to-day activities. A training needs analysis needs to be conducted for the different groups of workers in the value chain, in particular in farms, and appropriate modifications made to the curriculum. This needs to be then rolled out to a wider range of targeted participants in the sector. Training tailored for youth and women, especially on the commercial aspects of livestock management, should be prioritized.

Lead responsibility: MOA

⁸⁵ <http://www.nammic.com.na/>

Improve the availability and distribution of scientific, economic, standards, regulations, markets and consumer-related information

Consultations with the sector's participants suggest that there is little technical or commercial information available. BMC regularly published its prices for beef of different grades, which serve as a benchmark for related cattle prices. However barriers and gaps in their distribution exist. The extension services lack capacity to undertake this responsibility effectively. An analysis of the sector's information needs at different parts of the value chain needs to be undertaken and action taken to meet the needs identified. The beef farmers' associations, provided they are suitably strengthened, can play an important role in this area.

Lead responsibility: MOA

Improve process related to certification of cattle movement

The combined intervention of the owners of cattle, DVS personnel and police, and BMC when field-buying, is required before a movement permit can be issued. This process is burdensome on resources and also increases cost and bureaucracy to the industry. The movement permitting system needs review and streamlining, particularly if it can be supported by an effectively implemented LITS system.

Lead responsibility: MOA

Strengthen local livestock associations and Botswana National Beef Producers Union

The local beef producers' associations need to develop and implement financially sustainable strategies based on meeting their members' needs for services and support. Technical capacity building would be required. The associations can play a useful role in disseminating technical and economic information and assist their members in benchmarking their performance against those achieved in Botswana and comparable countries. These initiatives could be reinforced by partnerships with regional and European livestock associations. Section 10.5 presents a proposed project aimed at achieving some of the objectives in this area.

Lead responsibility: BNBPA, MOA

Enhance capacity of government agencies to support sector

More training is required among policymakers on matters such as international standards and those in export markets; technical issues and latest research on various aspects of the sector's performance; and the key factors affecting economics of the sector. Appropriate curriculum needs to be developed targeted at policymakers, and delivered on a rolling basis. BCA could play the role of the training provider. A system to improve coordination between MOA departments, MTI, MOH and MOLH is required to be developed and implemented.

Lead responsibility: MOA

Enhance DAP's effectiveness

There is a need for increasing staff resources at DAP, as well as the mix of different specialization and skill sets required by the sector. A mapping of skills available and those needed should be undertaken, followed by recruitment and training to fill the gaps identified. There is a need for more species-specific specialists at both district and headquarters levels. There is also a need to improve coordination with DVS, with other parts of MOA, for example on improving fodder production, and also with agronomists.

Lead responsibility: MOA

Build capacity in conducting trade negotiations related to the beef sector

Technical training in standards relating the beef sector, as well as on negotiating positions in the region and internationally needs to be implemented across the range of government departments involved in trade negotiations. The capacity building should be reinforced with greater coordination between the various agencies.

Lead responsibility: MOA

Improve BVI's capacity and sustainability

BVI's capacity needs to be strengthened to enable its laboratories to be appropriately equipped and staff trained for quality control and certification as an OIE reference laboratory. It needs improvement in infrastructure and capacity of its old laboratories in order to comply with Good Management Practice (GMP) and biosafety requirements. In addition, marketing support should be provided for it to sell its vaccine to new customers and improve its plant capacity utilization.

Lead responsibility: MOA, BVI

Produce and disseminate more relevant research for sector

The FAO Report highlights that most of the research conducted at the MOA Department of Agricultural Research is focused on breeding stock. A wider research agenda needs to be developed, including the economic determinants in the sector. Equally importantly, an effective dissemination strategy for the research findings needs to be developed and implemented. The department needs to be resourced adequately and appropriate human resources strategy implemented to train and retain qualified researchers.

Lead responsibility: MOA

Increase investment in farm infrastructure

Farm infrastructure, such as access roads and fencing needs to be improved. For example, MOA unallocated budgets at the fiscal year ends could be used for this purpose.

Lead responsibility: MOA

9.8. IMPROVING REGIONAL COOPERATION

Strategic objective 7: Improve regional cooperation on issues affecting the countries' livestock sectors.

	UR	VH	H
7.1 Improve dissemination of sector-related research.		●	
7.2 Improve results-oriented collaboration on disease related issues.		●	
7.3 Increase cooperation between beef industry associations.		●	
7.4 Implement more effective trade coordination at SADC and SACU levels.			●
7.5 Strengthen regional cooperation on research into the issues affecting the sector.			●
7.6 Support regional research initiatives such as Centre for Coordination of Agricultural Research & Development for Southern Africa			●

Improve dissemination of sector-related research

Very little is known among sector stakeholders of the research plans and results produced across the different activities of the beef sector (husbandry, breeding, productivity improvement, feed nutrition, indigenous plants as fodder, etc.). Many regional countries have been undertaking overlapping as well as potentially complementary research relevant to each other's domestic markets. The knowledge gap calls for a better management and dissemination of research across the region. An electronic database should be created and managed with clear roles and responsibilities. The upcoming upgrade of BCA to the new agricultural university would present a good opportunity to establish a more effective regional research dissemination function.

Lead responsibility: MOA, BCA

Improve results-oriented collaboration on disease-related issues

The SADC nations could benefit from results-oriented collaboration on disease-related issues such as measles, FMD. Clear targets could be set based on work done in other countries of the region and the partnerships established could enhance knowledge sharing amongst scientific teams. The role of the agricultural universities should be upgraded and the movement of regional scientists should be facilitated.

Lead responsibility: MOA, BCA

Increase cooperation between beef industry associations

Beef industry associations across the region would benefit from increased, more systematic knowledge sharing on practical and strategic issues. These could range from the establishing and governance of the associations themselves, their funding sources, services to members, lobbying strategies, to practical issues relating to beef production and marketing issues.

Lead responsibility: BNBPA, MOA, and BOCCIM

Implement more effective trade coordination at SADC and SACU level

Countries members of SADC and SACU regions should collaborate to strengthen their trade agreements particularly on trade of essential and strategic products such as beef amongst their members. They should also enhance their cooperation with long term trade partners in the rest of Africa and beyond.

Lead responsibility: MOA, MTI, and BMC

Strengthen regional cooperation on research into the issues affecting the sector

The beef sector would also benefit from research carried out at regional level for issues such as disease management and commodity based trading. The research could eventually expand to commercial topics such as market intelligence, beef certification requirements and new products and markets.

Lead responsibility: MOA

Support CCARDESA⁸⁶

The recently established Centre for Coordination of Agricultural Research & Development for Southern Africa (CCARDESA) is a regional initiative to enable farmer to get easier access to the market, develop the right type of technologies and promote knowledge sharing as well as access to information. These are areas that would benefit the farmers in Southern Africa. The role of CCARDESA thus should be enhanced so that it will be enabled to fulfil its mandate effectively.

Lead responsibility: MOA

⁸⁶ <http://www.ccardesa.org/>

10. PRIORITY PROJECT IDEAS FOR PSDP

10.1. INTRODUCTION

Drawing on the roadmap for the beef sector, we have formulated four priority project ideas that warrant PSDP support. These could be funded either by the PSDP itself, or in partnership with other donors. Pursuant to its statutory responsibilities, the government, and in particular, MOA, would be expected to play a role in funding and coordinating the projects suggested below.

The criteria applied in selecting and designing the projects have been:

- Achievability of objectives
- Alignment with CDE's mandate and competences (i.e. private sector, SMME development focus and strengthening support environment)
- Sense of ownership by stakeholders
- Clustering/embedded partnerships (i.e. potential for synergies)
- Focus on exports, but also impacting on domestic market
- Linkages/reinforcement between projects.

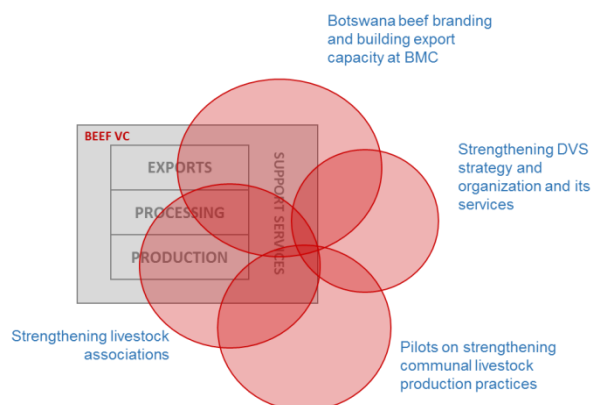
The four proposed projects are interlinked and aim to strengthen the different components of the beef value chain. As Figure 20 highlights, the projects are:

1. Strengthening communal farming practices.
2. Improving DVS service delivery.
3. Branding of Botswana beef and developing export marketing capacity at BMC.
4. Increasing the effectiveness of beef producer associations

The communal farming pilots are principally aimed at addressing the constraints identified in the production component of the value chain. Although the DVS project concentrates on the production and processing components, it will support efforts in export development by improving product quality and compliance with international market requirements. Similarly, the branding and marketing project will focus on developing the export component of the value chain. At the same time, it will impact on processing and production through improving capacity in packaging and producing beef meeting targeted export market standards. Finally, the beef producers' associations support project will primarily assist the beef farmers, but will indirectly benefit more upstream value chain components.

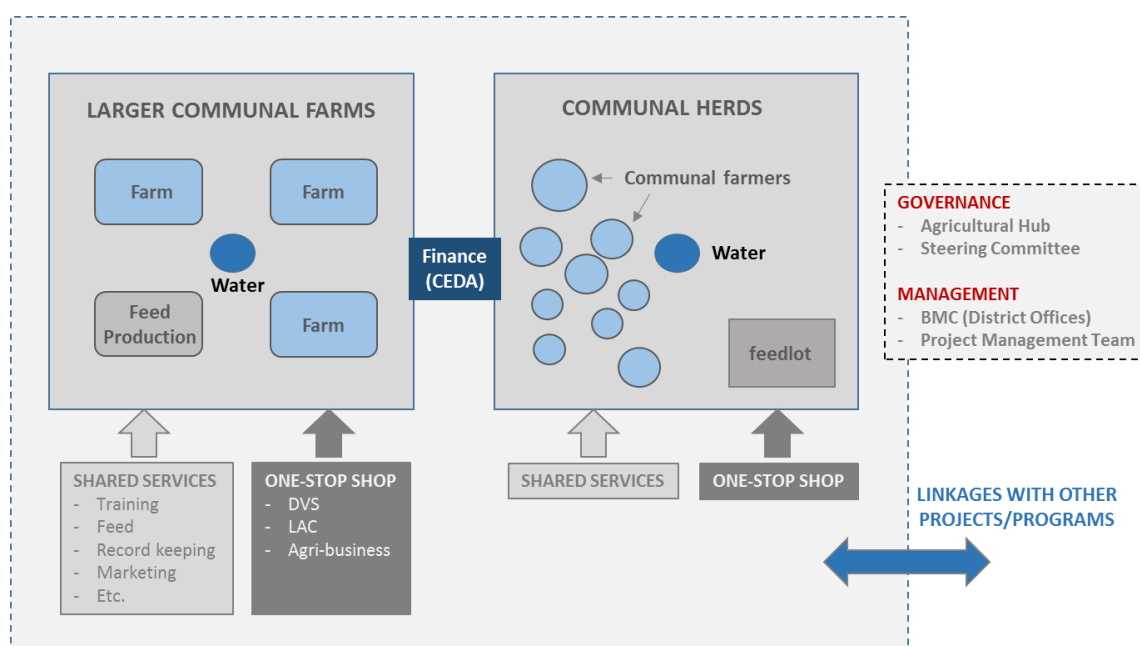
Annex II provides detailed developments of the projects, including their rationale, intended outcomes, indicative outputs and the preliminary estimations of their budgets. The projects' main objectives and activities are summarized in Sections 10.2 to 10.5 below.

Figure 21: Outline of proposed PSDP interventions in the beef value chain



10.2. STRENGTHENING COMMUNAL FARMING PRACTICES

Figure 22: Structure of proposed communal farming pilots projects



The communal beef farmers' pilot projects are aimed at strengthening livestock production practices among traditional SMME beef producers. Although the pilots would focus on producing beef for the European market, it is envisaged that these initiatives would be rolled out in the domestic channel as well.

The principal objectives of the project would be to achieve:

- Improved net income for SMME producers participating in pilots.
- Increased production yields in pilot farms and herds including:
 - Reduced mortality
 - Increased calving rates
 - Increased offtakes
 - Improved breeding practices.
- Higher average prices achieved for cattle from pilot farms.
- Reduced incidence of diseases affecting cattle in pilot farms.
- More accurate information recording, reporting and financial management practices in pilots.
- Better trained farmers, extension officers, and other support service providers.
- Increased access to finance for participating SMME producers.
- Increased awareness of effectiveness and results of better farming practices nationwide.

Four pilots are envisaged, three with larger communal producers with cattle holdings of over 250 each, and one with a mix of smaller and larger producers. Total cattle in each pilot would reach around 2000 head. The participating SMME producers would share water and land, as well as administration and reporting, input purchases, and sales and marketing. BMC plays a key role as an integral partner in the project, with its District Officers involved in a supervisory and monitoring role. The Agricultural Hub would undertake the technical coordination. Finally a steering committee involving representatives from key stakeholder groups would provide governance support.

The pilots would benefit from a range of support services, including those provided by LAC, veterinary inspection services, etc. Other projects aimed at strengthening these services would also be coordinated with the pilots.

The project is planned to last for an initial four years, covering set-up time and one cattle management cycle.

A project manager with an appropriate mix of professional and practical experience, along with junior project support in each of the pilots, would provide day-to-day technical advice and hands on training. The latter would be augmented by more formalized training and study tours in partnership with BCA.

Establishing the options for developing economically viable models of farming of different methods (e.g., feedlotting vs backgrounding) and different sizes of farms or holdings would be a priority. Research would be carried out in this area to provide input into structuring the pilots.

Identification of suitable land would be a key prerequisite. In addition to MOA land available at Banyana farms⁸⁷, communal land with existing or potential boreholes would be considered. In addition, it may be necessary to find controlled and approved land for finishing before slaughter.

A key contributor to success would be the participation of competent and motivated farmers. An appropriate method, such as a competition, is proposed to ensure this objective is achieved. In addition, it would be critical to ensure that their engagement and implementation of improved practices continues throughout the project. Various incentives are proposed, including:

- BMC contract for EU supply
- Access to 40-day finishing compound
- Supply chain finance (with insurance)
- Availability of finance, e.g., with BMC support.
- Input subsidies, increasing over time⁸⁸.

Various dissemination activities, including public relations, study visits, linkages with associations, etc. would be undertaken.

The preliminary estimate of the budget for this project is P20.3 million (approximately €1.7 million) over four years.

⁸⁷ See Section 5.4 of this report for further details on Banyana farms.

⁸⁸ To provide additional incentives to stay with the program until completion.

10.3. IMPROVING DVS SERVICE DELIVERY

The objectives of this project are to improve the availability of extension services and make the services more responsive to user needs.

Figure 22 highlights the project's principal components.

DVS strategy and organization

This component seeks to:

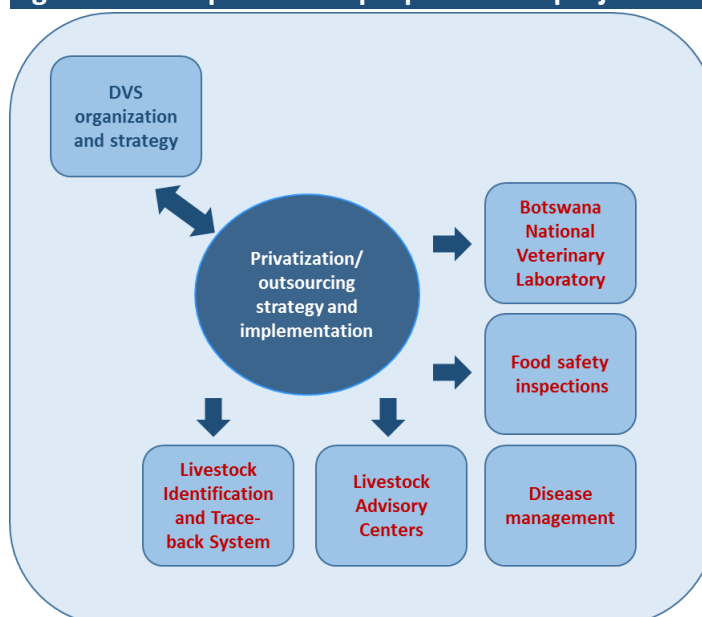
- Map needs vs supply of services, by type of need and magnitude to improve targeting of resources.
- Outsource non-core DVS activities to SMMEs, including:
 - Routine vaccinations
 - LITS
 - Fence maintenance
 - Meat inspection
 - Cattle movement permits.
- Update DVS strategy and organizational structure to facilitate above.
- Build capacity at DVS to manage outsourced services.
- Link with BCA and the New Zealand Aid training program to increase extension officer capacity.
- Provide adequate means of transportation for those in the field.
- Improve IT capacity for those in the field with use of means of mobile communication (through portable devices such as tablets, computers and smartphones).
- Address legislative or regulatory changes necessary as a result of the project's recommendations.

Strengthening disease management

The objective of this element of the project is to further strengthen DVS capacity and effectiveness in addressing problems related to FMD and measles. This component will:

- Initiate scientific research in Ngamiland on:
 - Cattle and wildlife movements
 - Generation and spread of FMD
 - Barriers to CBT (including awareness generation).
 - Risk assessment of management processes, which can be expanded to include the FMD protection zone.
- Improve and/or reinforce hygiene and other best practices to prevent/eradicate measles.
- Hire and allocate more veterinarians in the field.
- Realign human resources to increase proportion of veterinarians in the field as per OIE Gap Analysis.
- Outsource issuance of cattle movement permits to a third party.

Figure 23: Components of proposed DVS project



Livestock Identification and Trace-Back System

This component of the project is of urgent priority. Shortcomings in the current system is costing the beef value chain participants substantial amounts on a daily basis. This issue was also the principal cause of Botswana's withdrawal from the EU market in 2011 and 2012. The main activities involve:

- Developing strategy and implement move to digital ear tags.
- Outsourcing LITS execution to private sector with DVS having a regulatory role:
 - Database management
 - Ear tagging
 - Tracking and updating of information on MOA central server.
- Improving interface between all relevant MOA databases and LITS (cattle movement, inputs, cattle ID, farm, holding, cattle owner).
- Realigning the flow of communication within and between DVS and MOA departments.

Food safety inspection

Uneven enforcement of the LMIA is a problem for the value chain. This component is aimed at addressing the challenges in this area. The main objectives are to:

- Enhance enforcement of specific provisions of Livestock and Meat Industries Act (LMIA), by focusing on critical areas of enforcement that require strengthening and implement action plan.
- Develop and implement strategy to outsource meat inspection for selected activities.
- Train and strengthen DVS staff capacity to act as regulator as opposed to the implementer of LMIA.
- Facilitate (along with CEDA and LIMID) the setup of small private abattoirs to replace temporary slaughtering facilities (slabs).

Livestock Advisory Centres

The proposed merger of LAC with Botswana Agriculture Marketing Board (BAMB) recently approved by Cabinet presents some risks by way of diminishing the advisory role of the former and reducing the scope of PSDP intervention. Even as part of BAMB, LAC performance has significant room for improvement and the proposed project includes:

- Conducting market research on demand for LAC services and client experience from different types of livestock producers in different locations.
- Improving LAC supply chain efficiencies to deliver better services, quicker.
- Staffing LAC adequately and training them with skills needed by clients.
- Promoting and enabling coordination amongst LAC, DVS and DAP to ensure the right inputs and medicines are sourced to ensuring tailored availability of supplies.
- Reinforcing systems for recording of inputs and medicines for cattle and LITS.
- Determining activities that could be outsourced to the private sector.

Botswana National Veterinary Laboratory (BNVL)

Objectives of the project activities targeted at BNVL are to:

- Strengthen BNVL's capacity to conduct and disseminate research (e.g. FMD, measles, etc.)
- Reduce lead time for testing and delivery of results.
- Secure outstanding accreditation (e.g. ISO, South African National Accreditation System (SANAS) and Southern African Development Community Accreditation Service (SADCAS)).
- Conduct market research and re-assess the tests portfolio offered (residues, hormones, heavy metals, trace minerals, etc.).
- Build internal capacity and seek local partners to outsource some of the tests.
- Consider partnership with CEDA in order to build private labs after feasibility study.

Privatization and outsourcing strategy

This is an important element of the DVS project, ensuring any privatization or outsourcing of services is carried out coherently and sustainably. Objectives are to:

- Develop a coordinated strategy for privatisation of different DVS activities, by
 - Evaluating feasibility and cost benefit for different privatisation schemes.
 - Conducting income survey and drawing on existing surveys to determine farmers' capacity to pay for different services.
 - Conducting price sensitivity research to determine appetite for paying for different services.
- Consider and choose among different outsourcing models and establish appropriate one:
 - Full outsourcing, including variations to hiring off services to one company, to many individuals, small enterprises etc.
 - Outsource management of selected activities, e.g., supply chain management or LITS registration.
 - Private Public Partnership, e.g. ownership and management by the private of training facilities under contract with the government.
- Assess implications for DVS strategy, organization and skills needed for the outsourcing strategy:
 - Build appropriate systems for contracting and monitoring outsourced services.
 - Provide training to DVS staff for managing outsourced services.
- Develop private sector capacity to carry out outsourced services
 - Conduct skills/training needs analysis
 - Develop and provide training program for interested SMMEs to deliver outsourced services in areas identified in the other components of the project.
 - Partner with CEDA for capital and working capital needs.

The preliminary estimate of the budget for this project is P5.4 million (€445,000) over four years.

10.4. BRANDING OF BOTSWANA BEEF AND DEVELOPING EXPORT CAPACITY AT BMC

This project aims to firmly establish Botswana beef in premium segments in export markets, and develop BMC's capacity to effectively market its products.

The main objectives of the project are to:

- Establish more effective positioning of Botswana beef in different market segments.
- Gain better understanding of export market needs and trends.
- Reduce reliance on one outsourced export agent.
- Develop capacity and enhance the supply chain at BMC to export effectively.
- Launch a Botswana beef brand and improve awareness as a premium brand.
- Upgrade the existing ECCO canned food brand and create a new brand for pet food.
- Expand product lines.
- Enter new export markets.

The main activities relating to the project include:

- Building market intelligence gathering and analysis capacity at BMC.
- Carrying out research on products, segments, packaging (including cans) and cuts in key existing and target export markets.
- Developing appropriate brand, packaging, logo etc. for export.
- Installing new packaging lines at BMC to meet identified export requirements.
- Developing export and sales targeting capacity at BMC.
- Reviewing and updating the existing ECCO brand.

Our preliminary estimate of the budget for the technical assistance component of this project is P1.8 million (approximately €150,000).

10.5. INCREASING THE EFFECTIVENESS OF BEEF PRODUCER ASSOCIATIONS

The project aims at strengthening the ability of Botswana's beef associations' capacity to provide more effective support to its members. The main activities of the project include:

- Financial viability analysis including identification of sources of funding.
- Survey of members to identify needs and services associations can offer.
- Technical assistance to help develop sustainable strategies for the associations.
- Consultative workshops to exchange ideas with regional and international associations.
- Training to associations on providing services to members.
- Partnership or twinning with other regional or EU association(s).

The major risk associated with this project is that any TA provided is wasted because associations cannot achieve financial sustainability. Therefore, the viability study needs to be carried out before any other activity is envisaged, with emphasis on how the associations can sustain themselves beyond the term of TA.

Preliminary budget estimate: P4.1 million (€340,000).

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ANNEX I: PROPOSED PROJECTS FOR SUPPORT

Pilots for strengthening communal livestock farming practices

1. Background

1.1. The livestock sector's current position

The livestock sector is of critical importance to Botswana's ambitions in diversifying its economy. Although its share of GDP, at less than 2%, is small and has been diminishing over an extended period, the sector remains an important contributor to generating rural employment and generating exports and foreign exchange. Building on the country's long tradition in producing high quality beef produced naturally and within the constraints of strict regulations, the sector has strong comparative advantage over other beef producing and exporting countries. The sector accounts for 62% of the country's agricultural GDP and 1.5% of total exports. Around 50% of the country's beef production is currently exported.

Nevertheless, the sector has been in crisis in recent years, due to a number of factors including:

- High dependency on an increasingly competitive EU market, which accounts for almost half of exports.
- Increasing cost of compliance with tightening EU standards, which are enforced for all beef production in the country.
- An export monopoly, Botswana Meat Commission (BMC), which has conflicting objectives of providing livelihoods for farmers whilst being run commercially and where various studies have found that improvement in efficiency and effectiveness is required.⁸⁹
- An inadequate cattle identification system that has imposed considerable regulatory and marketing costs on the sector, and which contributed to Botswana beef's withdrawal from the important EU export markets for almost two years.
- Ineffective land management systems for controlling herds.
- An extension and livestock support service that is not commercially oriented and not aligned to the needs of livestock farmers.
- A large FMD-infected area in the north of the country, covering around 10% of livestock, that significantly impairs the commercial viability of livestock production.
- Poor hygiene and livestock health practices, particularly in densely populated human settlements, contributing to outbreaks of diseases such as measles, adversely affecting the saleability and price of beef.
- Relatively high cost of feed, most of which is imported from neighbouring countries.
- Distorted pricing by BMC that *inter alia* seeks to meet social objectives, but which also affects beef prices for the sector as a whole.

In addition to the above, a key area where the sector lags behind those of more dynamic beef exporting countries is in practicing modern livestock rearing and management techniques and a consequent high cost and low yield of production.

⁸⁹ Various reports, including Botswana Agrifood Value Chain Project: Beef Value Chain Study. FAO and Ministry of Agriculture (MoA). 2013, and The final report of the special select committee of enquiry on the Botswana Meat Commission and the decline of the cattle industry. February – August 2013.

1.2. Weaknesses in current livestock management practices

A recent FAO study⁹⁰ estimates that there were approximately 77,000 cattle farmers in Botswana in 2008. 76,300 communal households occupy 80% of pasture land, while 700 ranch farmers operate in the remaining 20%. Of the 77,000 cattle farmers, roughly 40,000 (52%) have fewer than 20 cattle, 60,000 (78%) had fewer than 40 cattle, and 75,000 (97%) had fewer than 150 cattle. Between 2005 and 2010 total cattle numbers fluctuated between 2 and 3 million, with 2.7 million in 2010.

Botswana's beef production system significantly underperforms those of its peers. For example, the FAO study finds that overall offtake rates, at 12%, are significantly lower than those in Namibia (20%), Brazil (18%) and Australia (24%). Botswana's calving rates, at between 50% and 60%, compare with up to 85% in neighbouring countries.⁹¹ Part of the explanation for the differences may be due to variations in permitted practices in the different countries. Nevertheless, actual performance with respect to calving percentages, mortality rates and offtake rates fall below targets for the National Development Plan (NDP) set by the Central Statistical Office.⁹²

A number of factors contribute to the weaknesses in livestock production. These include:

- Traditional pastoral herding that involves relatively little proactive management of cattle stock.
- Often seen as an asset and an insurance against unforeseen cash needs, livestock may not be sold at the commercially optimum time.
- A large proportion of absentee farmers who leave herd management to predominantly untrained farmhands, and who have other income (exacerbated by disincentives such as ability to offset farm losses against other income) and therefore have low motivation to adopt more commercial practices.
- A move over several decades from a traditional foraging system, where farmers move with their cattle to grazing areas, to a cattle post system around watering points has increased grazing density, environmental degradation, bush encroachment and ensuing lowering of grazing capacity in grasslands.⁹³
- As highlighted previously, poor hygiene practices such as lack of clean water and toilets, contributing to beef quality problems (due to increased prevalence of *Cystercercus bovis*) in cattle.
- Poor breed management, contributed to by poorly controlled mating in communal areas.
- Limited use of scientifically-based feeding techniques, such as the use of approved supplements.
- The large number of small holdings makes (commercial) cattle production less viable.
- Land usage and ownership practices making it difficult for communal farmers to fence off land and effectively control and manage their herds. Gazetting of land, including land ownership policy is controlled by the Land Board. Presently, the policy does not allow communal farmers to fence off pieces or communal land except by way of small plots around their individual boreholes.
- Poor access to training in farm management techniques by farmers and an extension service that does not have the capacity to provide advice on up-to-date and commercially-oriented practices.

⁹⁰ Botswana Agrifood Value Chain Project: Beef Value Chain Study. FAO and MOA. 2013

⁹¹ Botswana Development Policy review: an Agenda for Competitiveness and Diversification. World Bank. September 2012.

⁹² National Development Plan 10. Government of Botswana. June 2010

⁹³ Botswana Development Policy Review: an Agenda for Competitiveness and Diversification. World Bank. September 2012.

- Limited marketing capacity and price information, although BMC regularly publishes cattle prices in newspapers, and also uses social media. Producers are at liberty to sell to any business in the local market. The exception is for exports where only BMC is eligible. BMC could establish a toll-free number to which producers can offer their livestock in response to sms price alerts.
- Absence of focus on commercial and financial parameters of livestock production, rather than technical ones.
- Lack of ready access to finance for working capital (feeds, medicines, etc.) and investment (in herds, fencing, etc.).
- Poor infrastructure (gravelled roads, telephone coverage) in cattle farming areas making travelling and communication between centres for supply of farming services and farm requisites difficult and time-consuming.

Over recent years, the country's production systems have seen the increasing move from the traditional oxen-based practices to feedlotting. This shift has been significantly driven by BMC, which needs access to more regular supply of cattle of consistent quality to maintain throughput in its abattoirs. The EU regulations requiring export animals to be kept in an approved area for at least 90 days and a holding area for 40 days prior to slaughter (90/40 residence rule) has also contributed to this trend since feedlots, because of their enclosed nature, are readily compliant with the EU residency rules. In addition, suppliers to domestic supermarkets are also engaged in feedlotting to produce more consistent supplies.

However, given the relatively high cost of feeds in Botswana, there is some debate about the commercial attractiveness of this practice.⁹⁴ Moreover, in light of the trend in EU towards more naturally and humanely grown animal produce, the move toward feedlotting arguably makes Botswana's exports less attractive in international markets, a situation that calls for increased efficiency at all stages of the country's value chain. Nevertheless, feedlotting addresses the typically low offseason throughput resulting from the semi-arid climate conditions in Botswana. Technology uptake could reduce the intense move towards feedlotting through irrigated fodder production in a more commercialized production environment.

1.3. Potential results from improvement in management practices

The FAO study highlights that with improved management practices, Botswana's beef production could double, even without increasing the size of the current herd size. Table 1 below provides an outline of the study's underlying assumptions relating to improving the proportion of breeding cows, higher calving rates, reduced mortality and improved offtake.

The analysis above is based on average parameters. Larger, more commercialized farms could perform better, whilst relatively small communal

	2010 Oxen + weaner	Future Expanded weaner system
Herd size	2,700,000	3,000,000
Mature livestock units	1,944,000	1,980,000
Breeding cows (%)	40	45
No. of breeding cows	1,080,000	1,350,000
Calving rate (%)	55	65
Calves born	594,000	877,500
Mortality (%)	9	6
Net herd increase	297,500	644,850
No-growth off-take (%)	11	21
Potential beef production	45,821,160	99,306,900

Source: FAO Report

⁹⁴ The final report of the special select committee of enquiry on the Botswana Meat Commission and the decline of the cattle industry. February – August 2013.

herders would benefit less than the projected increases in yields.

Whilst highlighting the considerable potential for improving production yields, the FAO study nevertheless raised some uncertainties about the commercial impact of improved farm management practices. For example, based on the study's assumptions, it was suggested that the increased costs of better livestock management may not be fully recoverable given current pricing practices (although it was clear that financial performance improved with size of holdings). This commercial aspect of livestock management requires more detailed research, particularly in view of price increases that have effected since the date the report was published.

Nevertheless, based on the above analysis, and comparing Botswana's livestock production performance with similar countries, it is clear that considerable potential for improvement exists.

2. The project

2.1. Overview

The project will establish or identify four suitable locations for piloting variations of communal farming practices, introduce improved livestock management practices, train farmers and herders, draw on support services through piloting one-stop shops, disseminate the results of the pilots and develop a methodology for rolling out the pilots nationwide incorporating the lessons learned from their piloting phase. The project will be run by the Agricultural Hub and managed by BMC with technical assistance (TA) and project management support being funded by the project. Project activities will be coordinated to the extent possible with existing and planned Government and donor initiatives.

The project would run for an initial period of four years.

2.2. Goal

The goal of the project is to improve the livelihood and income of communal farms and farmers in Botswana.

2.3. Outcomes

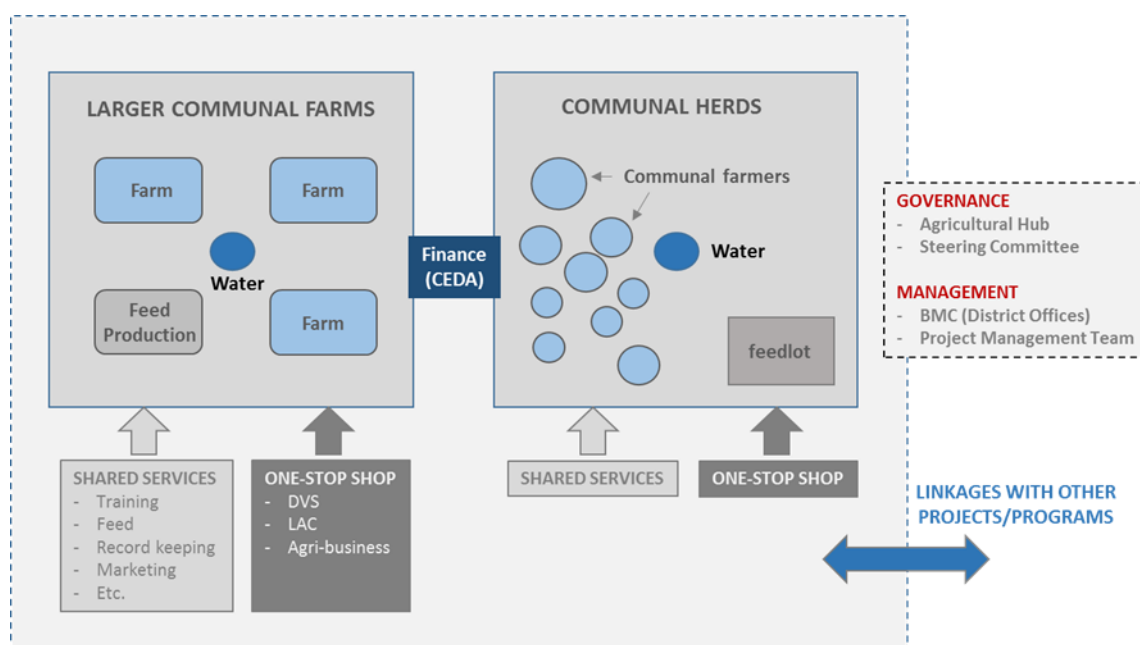
The envisaged outcomes of the project are:

- Improved net income for farmers participating in pilots.
- Increased production yields in pilot farms and herds including:
 - Reduced mortality
 - Increased calving rates
 - Increased offtakes
 - Improved breeding practices.
- Higher average prices achieved for outputs from pilot farms.
- Reduced incidence of diseases in pilot farms.
- Better information recording, reporting and financial management practices in pilots.
- Better trained farmers, extension officers, livestock advisors.
- Increased access to finance for pilot producers.
- Increased awareness of effectiveness and results of better farming practices nationwide.

The verifiable indicators for the goal and outcomes, along with baselines, will be built on the basis of the situation in the four pilot locations to be selected.

2.4. Activities and outputs

Chart 1 below illustrates some of the key components of the proposed structure of the project.



Outputs would be defined as part of the detailed design of the project, which will be based on the following structure and activities. Some illustrative outputs are included below, but they are not intended to be exhaustive.

Pilot farms/holdings and participants

The pilot farms or holdings would be established in fenced-off or otherwise controlled and approved areas to hold cattle for the entire production cycle. It is suggested to focus on four pilot areas. They will pilot a selection of different cattle farming or herding options. Each piloting option would be selected to demonstrate good farming practices in one or a combination of features from the following (all of the options listed below will not necessarily be addressed):

- Small communal herders, with average herd sizes of around 100.
- Larger communal farms, with average herd sizes of over 150.
- Oxen and weaner based farming systems, respectively in different pilots.
- The communal farmers or would be grouped together around a borehole (commercial operations with existing fenced farms/holdings would typically have own borehole(s), and communal farmers with a commercial mind-set would be targeted), with total cattle numbers of around 2,000.
- The farmers will share water and services such as sales and marketing, herd monitoring and reporting, feed and supplement procurement, administration, breeding, fencing (where relevant).
- Locations will include a range of climatic and soil conditions.

- To the extent that wider programs are developed in branding/marketing such lines, certified grass-fed, natural, organic, etc.
- To the extent possible, linkage with various options of irrigated fodder production in fenced holdings, communally owned or commercial farms.

Illustrative outputs

Some illustrative outputs from the project are provided below:

- Research report on economic viability of farms/communal holdings of different sizes and production approaches (e.g., feedlotting and growing cattle to slaughter weight).
- Detailed business plans for pilots, including production plans, financing plans and financial projections.
- Periodic budgets and action plans for each key stakeholder involved in the project.
- Manuals on different aspects of livestock management.⁹⁵
- Training material relating to different aspects of livestock management and workshops/training sessions and participant feedback and assessment.
- Marketing plans for the participating farmer SMMEs.
- Budgets and plans relating to development of feed producing capacity.
- Periodic monitoring reports on pilots.
- Dissemination plan.
- Roll-out (upscaling) plan.

Activities

Once the four pilot models are finalized, a key first step would be to develop a detailed financial model, along with sensitivities, to establish their financial viability. The project will also provide support and training to the pilot herders and farmers in the following areas:

- Disease management
- Breeding
- Nutrition
- Commercial and financial management.
- Record-keeping
- SPS measures
- Wider livestock rearing related education.
- Supplementary fodder production
- LITS management
- Livestock identification systems (this is essential for their ability to market produce).

Particular emphasis will be placed on developing the technical capacity of herders and commercial awareness of farm managers. Targets for yields and profitability will be established and monitored.

⁹⁵ See Namibia national Farmers Union (NNFU) and Namibia Agricultural Union (NAU) websites for examples.

Land

Suitable land owned by BMC and the Ministry of Agriculture would be used for the pilots. In addition, tribal communal ranches would also be considered. Key considerations when selecting the location would be to ensure that it has ready access to water, feed, support services, access to markets, etc. An appropriate fencing strategy would also need to be developed to meet the EU 90/40 day rule, and the land selected must be suitable for implementing such a strategy.

Support services

In addition to the herders and farmers, the provision and capacity building of various support services would be integral to the activities of the project. These support providers would include:

- Extension services
- Livestock Advisory Centres
- Agri-business services.

To the extent possible, the project will seek to establish and trial one-stop shops for delivering such support services. Training of such support providers would be an important component of the project. The support services would not be tied exclusively to the pilots and will additionally serve their respective catchment areas.

Selection of herders and farms and incentives

The selection of suitable, motivated, commercially-oriented participants would be critical for the success of the pilots. An appropriate process to identify participants would be developed as part of the project's inception. Options would include, for herders, submission of competitive proposals by relevant livestock associations, and for groups of larger commercial livestock farmers, submission of competitive business plans based on published parameters.

It is important that farmers, herders and other participants are appropriately incentivised to attract the highest quality candidates and also to keep them motivated. Incentives might, for example, include BMC commitment to purchase beef from the pilot farms at guaranteed prices. The details of appropriate incentives would be developed as part of the design of the project. Similarly, provisions will be made for removing participants from the pilots who do not deliver on their commitments.

Communal farmers could also have access to a pre-market farm where ready-to-slaughter cattle would be kept to satisfy the 40 days residency.

Dissemination and roll-out

A dissemination strategy including site visits, workshops and publicity would need to be developed and budgeted for as part of the project. One of the key outputs of the project would be a roll-out strategy.

Finance

A MoU with CEDA would be entered into for providing credit as necessary for working capital and asset financing to the farmers, on CEDA's usual terms and subject to meeting eligibility criteria. The rigorous commercial and financial management as well as the close monitoring of performance envisaged as part of the project would make the pilot participants attractive candidates for credit.

Linkage with other projects and programmes

There are a number of Government and donor initiatives and projects currently being implemented in the livestock sector. Linkages and partnerships would be developed with appropriate programmes to leverage resources and avoid duplication. At the same time it would be critical to ensure that the project can be implemented on a stand-alone basis should the cost or complexity of coordination start exceeding its benefits, or should the other projects start to fail achieving their objectives. Candidates for linkages and coordination include:

- New Zealand aid Program funded Botswana Beef Sector Training Initiative.
- BMC market diversification programs
- Any relevant programs developed from the revised National Agricultural Policy.

In addition to the above initiatives, this study has recommended a number of interventions that would complement and reinforce this project.

2.5. Key risks and assumptions

Some of the principal risks and assumptions relating to the project include:

- Economic viability of the piloted livestock management models (particularly due to the evolution of livestock prices).
- Identification of committed, commercially oriented, and motivated communal herders and beef farmers for the pilots.
- Committed participation of all key stakeholders in the project.
- Availability of land that meets the appropriate selection criteria.
- Absence of any external shocks, including significant deterioration in EU/regional beef export prices, material increase in food prices, outbreak of diseases, etc.
- Identification and engagement in commercial terms of a project management team.
- Availability of grant funding from external donors and the relevant Government agencies.
- Availability of commercial finance for capital and working capital requirements.
- Provision of effective training and appropriate incentives for implementation of better livestock management practices.
- Strengthening of wider policy environment and restructuring of beef industry in Botswana to address its current weaknesses (some of which are highlighted in the background section).

2.6. Project management

Implementation of the project will be complex, requiring proactive coordination of a large number of participants, support organizations, TA deliverers, other TA initiatives and wider stakeholder groups. To the extent these are pilots, unforeseen events will be encountered and the project should be able to react quickly and effectively to address any emerging issues.

The Agricultural Hub will be the principal sponsor of the project, taking responsibility for its strategic guidance and management of stakeholders. The Hub would be supported in strategic matters by an advisory committee comprising BMC, DVS, the proposed Food Control Authority, DAP, Department of Agri-business, a private sector representative (such as Techno Feeds), and the National Beef Farmers Union.

BMC will play the leading operating management role, being responsible for providing operational guidance and monitoring and reacting to the pilots' performance through its District Offices. The District Officers would ensure the pilots are integrated into the beef value chain, and in fact help to strengthen the value creation chain. The project manager will liaise with these District Officers with the aim to consistently improve performance and results. The pilots will be integrated into BMC's strategy and work plan and related milestones established and reported on within the organization.

The project will fund a full time project manager, with some support staff, to manage the pilots on a day to day basis. He or she will also provide some of the required technical advice and training to participants and support staff. The project manager will have in-depth technical and commercial experience of managing livestock operations in a similar environment.

This initiative will also provide a pool of funds to operate a call-down facility, to be managed by the project manager with appropriate streamlined and quick-reacting approval processes. The call-down facility will be drawn on to procure national, regional and international expertise in livestock management as required by the pilots.

3. Preliminary budget estimate

Budget Costing Estimate	Annually (BWP)	4 Years (BWP)
1 Project Manager	550,000	
4 Project Managers (record keeping, reporting, monitor)	1,000,000	4,000,000
M&E Specialist (part time) Monitor & Evaluation	80,000	
Transport	-	300,000
Fuel/maintenance	40,000	160,000
Training	100,000	400,000
Accommodation	80,000	320,000
Technology (accounting, software, hand held LITS reader)	250,000	1,000,000
- Subsidies on inputs, borehole running costs, medicines, borehole maintenance, transport	1,200,000	4,800,000
Land		
- Annual rental (contribution in kind)		
- Borehole open 2 and refurbish another 2	-	750,000
Fodder production		4,000,000
Study visits	400,000	1,600,000
Dissemination (field visits, celebration, communication, publication)	750,000	3,000,000
Total	4,450,000	20,330,000

4. Indicative next steps

The following are the suggested next steps in the detailed design and implementation of the project:

1. Agreement of all key stakeholders on the key parameters of the project and their roles in it.
2. Securing funding in principle.
3. Detailed design of the project, including terms of reference for each key participant (or groups thereof); a detailed budget; detailed logframe(s); a procurement plan for project management team; a plan for identifying and appointing livestock farmers; a training plan; details of scope of coordination with other projects/programs; and an outline dissemination and roll-out plan.
4. Commissioning of research into economic viability of the pilot models and incorporating in the project design and adjustments necessary to reflect the findings.
5. Securing land for the pilots.
6. Finalization of funding agreements.
7. MoUs with government agencies providing key support to the project.
8. Recruitment of project management team.
9. Execution of contracts with providers of support services.
10. Publicity and selection of participating farmers in the project, and entering into appropriate contracts with them.
11. Commence implementation of project.

Pilot projects for strengthening the extension services

1. Background

The importance of the beef sector in Botswana spans a number of dimensions: economic, social, environmental, and even political. The cattle industry has remained a key focus area since colonial times. In fact, the colonial administration invested heavily in veterinary fences and abattoirs prior to independence in order to meet the requirements of European importers. The result of these efforts was an increase in raise beef exports, accounting for 85% of the total value of the country's sales abroad just before independence. By the 1970s the government of Botswana achieved preferential tariffs as part of the Lomé Convention and beef retained its position as the country's most significant agricultural export⁹⁶.

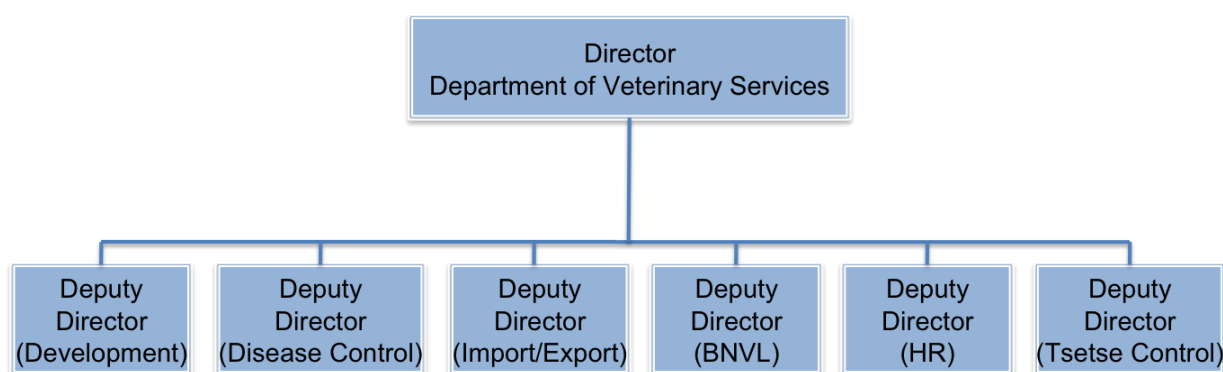
Cattle are often considered as a long-term savings option and, in some cases, a status symbol. The government regards the beef sector as a key driver for rural poverty eradication. The large majority⁹⁷ of the cattle belong to communal farmers, leaving a small percentage of the herds in the hands of professional farmers. The communal farmers group can be also classified according to the size of the herd, as well as according to the intensity of their own dedication (full time versus part-time).

2. The Department of Veterinary Services (DVS)

In 2008 the former Department of Animal Health and Production was reorganized. Its former functions were split between two new independent departments; the Department of Animal Production (DAP) and the Department of Veterinary Services (DVS). Both of them have national responsibility.

In line with the strategy of the Ministry of Agriculture (MOA), DVS focuses on rural development and livestock disease control. Under DVS there are six divisions led by Deputy Directors, all veterinarians by training. In addition to the centralized structure at MOA, the veterinary services include 10 District Veterinary Offices and 28 sub-districts offices, some of which are co-located with the District Veterinary Offices (DVOs). The next level of the veterinary services structure are regional clusters, then extension areas and finally cattle crushes. Whilst all DVOs are headed by veterinarians, some of the Sub-District Veterinary Offices (SDVO) are led by non-veterinary scientific officers.

Chart 1 shows an overview of DVS' structure⁹⁸.



⁹⁶ Botswana: A Development-Oriented Gate Keeping State, Ellen Hillborn

⁹⁷ 80-90% according to the literature

⁹⁸ OIE PVS Gap Analysis Botswana Nov 2011

Overall, DVS personnel are considered highly skilled with the majority of the veterinarian officers having been qualified at reputable international institutions. Some of them hold postgraduate degrees. Senior management positions are occupied by veterinarians whereas the staff in daily contact with the farmers and the cattle have mostly qualified as veterinary para-professionals. The latter normally receive official training but are not always supervised by a veterinarian. This situation is attributed mainly to the multi-layer hierarchical structure of the organization.

3. The project

3.1. Overview

The project will create a strong demonstration effect by setting up pilot operation in four to five areas across the country. The process and results will be recorded to enable MOA to evaluate the results reliably. The project will introduce scalable methodology in such a way to ensure that a nationwide roll-out will be feasible and sustainable. It will be coordinated by the Agricultural Hub and managed by the Director of DVS.

Synergies with other government initiatives and institutions will be sought. They include the Botswana Beef Sector Training Initiative funded by the New Zealand Aid Programme, as well as the work carried out by Botswana College of Agriculture (BCA) and the Meat Inspection Training Institute (MITI). The project will be run for a period of four years.

3.2. Goal

The project aims at streamlining the DVS operations in order to allow the DVS staff to focus on their core responsibilities and provide better valued services to the farmers (within its existing budgetary means). In parallel this initiative seeks to foster opportunities for SMEs to participate more profitably in the value chain.

3.3. Potential results from improvement in the delivery of extension services

The project is expected to bring about an improvement of both the availability and quality of the services provided by extension services where they are mostly needed. This result coupled with more market-oriented services will lead to:

- Improvement of extension officers' availability and enhancement of the quality of the services provided
- Further strengthened capacity and effectiveness to address animal diseases
- Improvement of the LITS system and enhanced compliance with export markets requirements
- More effective enforcement of key provisions of Livestock and Meat Industries Act (LMIA), and
- Further capacity built (including accreditation) of the Botswana National Veterinary Laboratory (BNVL)

Improved efficiency, better trained staff and improved supply chain at Livestock Advisory Centres (LAC). Eventually the above steps will improve BMC's supply chain, one of the bottlenecks in the beef sector that would benefit all farmers.

3.4. DVS Organizational Strategy

In 2011, OIE published the an analysis⁹⁹ aiming at assisting Botswana's veterinary services (BVS) to identify the gaps in the current system and propose a strategic action plan aiming to strengthen BVS' ability to meet the future challenges and remain compliant with the OIE standards. The OIE PVS Gap Analysis clearly states that the overall challenge for BVS is the improvements of its overall efficiency levels. This report also identifies the current scarcity of veterinarians on the ground as a key impediment to meet the OIE requirements. During the consultations with stakeholders, interviewees agreed that the current veterinary services are not optimal, requiring far-reaching reform. Over the years DVS has accumulated a wide array of responsibilities including:

- Vaccinations, both routine and critical
- Fence maintenance
- Health inspection
- Disease management
- Livestock Identification & Traceability System (LITS)
- Monitoring of cattle movements
- Meat inspection, and
- Effective and up to date advice on inputs.

There is currently a shortage of qualified personnel, particularly close to the farms. Also, extension officers must cover long distances on daily basis. This situation has led to the following:

- Unavailability of the extension officers when and where needed
- Increasingly high workload with multiple requests to attend different sites simultaneously
- Lack of resources for transportation (often means are shared with other MOA departments)
- Shortage of qualified veterinarians on the ground and in contact with the farmers
- Suboptimal up-to-date knowledge on best practices and information in relation to animal diseases.

Outcomes

The envisaged outcomes of the project are:

- Improved availability of extension services and extension services are more market-oriented
- Streamlined, more efficient and effective DVS operations.

Outputs

The envisaged outputs of the project include:

- Enhanced capacity of the DVS personnel deployed in the field
- More effective geographical deployment of DVS staff nationwide
- Improved flow of communication within various DVS departments as well as across MOA departments.

⁹⁹ OIE PVS Gap Analysis Botswana Nov 2011

Activities

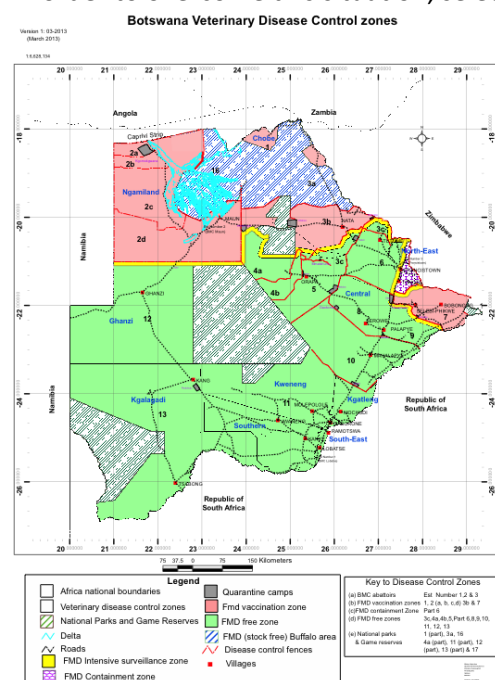
The indicative activities of the project include:

- Restructure the DVS organization to maximize efficiency
- Map out cattle, farms, area coverage by extension officers vs extension officers distribution and propose an improved distribution
- Outsource non-core DVS activities to SMEs
 - Routine vaccinations
 - LITS
 - Fence maintenance
 - Meat inspection
 - Cattle movement permits
- Provide to training to extension officers in collaboration with BCA and New Zealand Aid Program.
- Advocate for improved means of transport in order to reach more isolated farms.

3.5. Disease management

When the United Kingdom became part of the European Union, it continued the efforts to import beef from the former colonies. Exporting to the EU meant that the Botswana farmers had to comply with a new set of legislation that included amongst others, disease management controls. Particular attention was given to highly contagious diseases such as foot and mouth disease (FMD). In Southern Africa land is often shared amongst humans, small and large domesticated animals, as well as wildlife. This situation poses an additional challenge to the authorities to eradicate contagious animal diseases or at least control them.

In order to overcome this situation, selected governments in Southern Africa¹⁰⁰ initiated the zoning



system. Areas with high occurrence of both wild buffaloes and FMD (“red zones”) were separated from disease-free areas (“green zones”). Between the two areas lies a buffer zone where cattle form a first level of warning in the case of breakouts. Only cattle in the red zones are vaccinated. EU exports originate from the “green zone”.

As part of the disease prevention measures, DVS staff travels nationwide to ensure that crushes and fences are well maintained. The FMD-free status of the green zones is confirmed through regular tests conducted at BNVL. Complete eradication of FMD in Southern Africa is not a realistic goal, since the disease is carried by wildlife, mainly buffalos. An alternative approach to today’s efforts to manage the disease could be to initiate a risk assessment based program such as the Commodity Based Trading (CBT) helping to avoid new outbreaks and at the same time maximizing the value of the cattle from

¹⁰⁰ Botswana, Namibia, South Africa, Zambia, Zimbabwe

FMD-prevalent areas such as Ngamiland.¹⁰¹ Such programs although technically feasible, to be accepted by organizations such as OIE and/or various government authorities internationally.

The percentage of cattle infected with measles¹⁰² in Botswana is estimated at over 10% whereas the average percentage for other countries in the region is around 3%. Between January and October 2013, measles reportedly cost BMC an estimated BWP73 million. By way comparison, the cost of FMD vaccination is estimated at US\$7million (BWP62 million). Unlike FMD, measles is not detected prior to slaughtering; therefore limiting options reduce the financial losses in advance. Eradicating measles completely would require a nationwide program coordinated by the MOA with the active participation of Ministry of Health (MOH), and largely concentrated on preventative interventions.

Outcomes

The envisaged outcomes of the project are:

- Strengthened capacity and effectiveness among relevant agencies to address FMD and measles.
- Reduced incidence of measles.

Outputs

The envisaged outputs of the project include:

- Scientific research at Ngamiland on:
 - Cattle and wildlife movement and
 - Generation and spread of FMD
- Establishment of a multi-pronged approach to controlling FMD and increased trading of beef from FMD affected areas.
- Review of the slaughtering act and update based on scientific research data
- Enhanced measles disease eradication practises

Activities

The indicative activities of the project include:

- Conduct research on FMD in Ngamiland
- Deploy a higher number of DVS veterinarians in the field
- Supply de-worming tablets to humans via clinics and cattle via extension officers
- Undertake media-based campaigns to promote the importance of measles eradication
- Reinforce hygiene practises such as sanitary facilities
- Prevent grazing areas becoming contaminated by human faeces
- Develop and implement multi-dimension strategy for controlling FMD and trading in beef from FMD affected areas.

¹⁰¹ FAO - Botswana Agrifood Value Chain Project Beef Value Chain Study

¹⁰² <http://www.depi.vic.gov.au/agriculture-and-food/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/beef-measles>

3.6. Livestock Identification and Traceability System (LITS)

Livestock branding originates in ancient Egypt, originally using a hot metal stick. Originally, branding served to identify the owners. This practice was particularly followed in countries with large grazing areas. In more recent times branding has been used to assist in traceability in addition to identification. In April 1997 in response to the BSE crisis, the Council of the European Union implemented a system of permanent identification of individual animals enabling the traceability.

The key objectives were:

- The localization and tracing of animals for veterinary purposes, in order to control the spreading of infectious diseases
- The traceability of beef for public health reasons
- The management and supervision of livestock as part of the common organization of the market¹⁰³
- The identification systems require that:
 - Each animal has a unique identification number
 - Each holding area is registered in a database
 - All animal movements are registered.

Initially, Botswana chose an advanced system, using a bolus inserted through the mouth into the stomach of the animal. A portable scanner reads the unique information registered in the bolus emitted with Radio Frequency Identification (RFID) and uploads the information into the centralized server located at MOA.

Following the feedback from farmers and other stakeholders, in January 2013 the government decided to replace the bolus system with ear tags (which is widely used in Europe, Botswana's main export partner). There has been a transition period during which both systems were used in parallel and the data from both systems was recorded in the MOA database. The challenges in the implementation of the system are attributed to DVS internal processes rather than the system shortages.¹⁰⁴ Finally, the implementation of the analogue ear tag as an intermediary solution is adding complexity will lead to further delays of implementing the digital ear tags even further. It is therefore desirable to initiate immediately the implementation of digital ear tags and phase out the use of both bolus and analogue ear tags.

The main shortcomings surrounding the LITS include:

- Owner's details are not correctly updated in the central MoA server
- A DVS member of staff is required to scan and issue movement permit at the farms, leading to delays and eventually disruptions to BMC's supply chain
- Data is not updated by small-scale farmers due to lack of funds to purchase a scanner, failing to comply with export markets requirements
- The government has invested over BWP230 million for a well-designed system but the project implementation has failed to delivered a reliable fully fledged solution
- Unclear split or roles and responsibilities amongst the various stakeholders in the value chain
- Delays or even failures to update the information into the central MOA database

¹⁰³ http://ec.europa.eu/food/animal/identification/bovine/index_en.htm

¹⁰⁴ Cattle Identification and Traceability in Botswana, Moreki J. C., Ndubo N. S., Ditshupo T. and Ntesang J. B.

- Absence of combining multiple databases related to animal disease management, animal movement and traceability
- Conflict of interest as DVS is both the implementation body as well as the auditor.

Outcome

The envisaged outcome of the project is:

- Better compliance with market requirements through enhanced LITS.

Outputs

The envisaged outputs of the project are:

- Improved LITS fully compliant with export markets
- Improved flow of communication within DVS and outside with respect to LITS
- Outsourced the management of LITS.
- DVS established as a regulator of LITS.

Activities

The envisaged activities of the project include:

- Record, upload and keep up to date LITS information
- Integrate all MOA disease related databases within LITS
- Outsource cattle, holdings and cattle movements registration to the private sector
- Organize enhanced private sector participation in disease prevention, distribution of medication, and registration.
- Set up ear tagging systems in partnership with to private operators and/or farmers associations
- Register slaughtering and butchery information produced by meat inspectors
- Monitor LITS activity and propose corrective action where necessary.

3.7. Food safety inspection

The Livestock and Meat Industries Act (LMIA) introduced in 2006 has transferred to DVS the responsibility of overseeing all abattoirs and other slaughtering facilities. The Act requires that these facilities are registered and their operations monitored by meat inspectors. Despite this legal framework and the continuous efforts by the officials to improve compliance, the industry is facing serious challenges, namely:

- Significant quantities of cattle are slaughtered in often uninspected, temporary/artisanal slaughtering facilities that do not follow any sanitary requirements. This phenomenon leads to an increasing risk for the health of consumers and unfair cost advantage for the operators of these facilities.
- The LMIA intended to introduce common food safety standards across the meat industry and ensure that all consumers whether in Botswana or abroad receive meat that follows the same standards of hygiene and practises. Nevertheless over eight years since the introduction of the Act, a number of facilities still receive automatically renewed temporary licences. This practice

may result in increased public risk hazards, particularly because DVS lacks the resources to monitor these facilities¹⁰⁵.

Outcomes

The expected outcomes of the project are:

- LMIA enforced across the value chain with no exceptions
- Improved efficiency and effectiveness at DVS, enabling it to focus on its core activities

Outputs

The envisaged outputs of the project include:

- Current LMIA enforcement status evaluated, shortages and areas for improvement identified.
- Services in the value chain that can be delivered by private sector operators, especially SMMEs identified.
- Private meat inspection enabled and potential providers trained.
- Public awareness of LMIA raised.

Activities

The envisaged activities of the project include:

- Partner with CEDA to allocate funds and the Livestock Management and Infrastructure Development (LIMID) program to incentivize for private abattoir investors
- Close down all temporary abattoirs and slaughtering slabs
- Carry out media communication to public on the importance of good hygiene practices and abattoir operations
- Change the legal framework to allow private entities to inspect meat and abattoirs
- Enable DVS to act as regulator vs executor of LMIA.

3.8. Botswana National Veterinary Laboratory (BNVL)

DVS owns Botswana's only dedicated veterinary laboratory. BNVL analyses specimens from abattoirs, extension areas and processing facilities.² Reportedly, the laboratory still faces difficulties in receiving samples from remote areas and execute the tests within short lead-times. BNVL is adequately staffed and has accreditations from ISO and South African National Accreditation System (SANAS). DVS has built up a significant amount of knowledge over the years through field presence and laboratory test results. Yet, the institution has difficulties in sharing know-how among its staff outside its main offices. Furthermore the databases generated (by e.g. the veterinary laboratory and the animal tracking system) are managed separately, thereby missing the opportunity to leverage efforts.

In addition to improvements in information management, there are opportunities to initiate applied research, particularly in the disease eradication and management. Finally, there is a potential to outsource locally the national residue monitoring tests currently being conducted in the UK.

¹⁰⁵ FAO - Botswana Agrifood Value Chain Project Beef Value Chain Study

Outcomes

The envisaged outcomes of the project are:

- BNVL activities and recommendations based on scientific research.
- Improved efficiency and effectiveness within BNVL, enabling to deliver better services
- Improvement on BNVL accreditation

Outputs

The expected outputs of the project include:

- BNVL actively engaged in FMD-related clinical research
- Improved turnaround times for test execution
- BNVL fully accredited for all relevant tests and equipment
- Increased internal capacity at BNVL and local partners appointed for outsourcing residue tests.

Activities

Indicative project activities of the project include:

- BNVL takes leadership to link with a potential disease management pilot in Ngamiland to scientifically prove how FMD is generated and spread (i.e. the disease transmission dynamics)
- BNVL reassesses the portfolio of tests currently offers vs what is needed by the industry and legislation
- Optimize BNVL operations and reallocate resources accordingly to reduce test lead times
- Assess what are the necessary tests and equipment and complete the accreditation process
- Receive seek support from BOBS, BVI and SADCAS for the accreditation process
- CEDA to allocate funds and incentivize private investors to invest in private laboratories that meet the demands of a growing livestock industry.

3.9. Livestock Advisory Centres (LACs)

A total of 36 LACs are distributed across Botswana. Their primary purpose is to distribute livestock inputs such as feeds, medicines, vaccines, and husbandry equipment. In the past the LACs were the sole feed vendors in rural areas. The prices were heavily subsidized.

Over the years and due to budgetary restrictions it has been challenging for LACs to stock an adequate amount of feeds, vaccines and medicines. Their limited scope includes the provision of inputs at subsidized prices. LAC staff cannot always meet demand for on-site visits for inspection, issuing movement permits etc. Due to budgetary restrictions the availability of inputs is not always guaranteed for farmers, thus leading to delays in cattle treatment and loss of productivity. The services provided by LAC are free of charge for all farmers irrespectively of the size of their herd or their financial capability. Sales and uses of medicines are not registered centrally by MOA.

LACs require further attention in the following areas:

- Optimize the location of LACs to ensure accessibility and reduce transport costs
- Separate the veterinary advice from the commercial aspect within the LACs

- Increase the number and improve distribution of LAC staff consistent with the need for their services.
- Ensure the availability of inputs¹⁰⁶.
- Provide training to LAC staff on business management skills applied.

Outcomes

The envisaged outcomes of the project is a more efficient LAC supply chain enabling them to deliver better services

Outputs

The envisaged outputs of the project include:

- Trained LAC staff and improved matching of supply and skills of LAC staff to match demand.
- Staff skillset enhanced (commercial, technical, medical, etc.)
- Coordination between DVS, DAP and LAC enabled, to ensure sourcing of the right inputs and medicines.
- Improved records of inputs, supplements and medicines distributed.

Activities

Indicative project activities include:

- Review LAC supply chain and tackle bottlenecks
- Increase product range and source products based on feedback from other MOA departments and based on scientific research
- Implement and where possible improve LAC stock management system
- Roll out a centralised procurement system to benefit from economies of scale
- Introduced commercial management practices

4. Privatisation

There are different definitions of privatization, and OECD¹⁰⁷ describes it as: “...any material transaction by which the state’s ultimate ownership of corporate entities is reduced.” Prior to privatization taking place the necessary legal and regulatory frameworks need to be in place. Such frameworks aim at increasing the transparency of the privatization process and clearly defining the roles and responsibilities between the public and private sector. In most cases a restructuring process of the industry or entity to be privatized is required.

Particularly for DVS activities, the types of participation of the private sector could include:

- Substantial outsourcing of activities, e.g. in the case of LITS private entities could take the responsibility of daily management of the system.

¹⁰⁶ FAO - Botswana Agrifood Value Chain Project Beef Value Chain Study

¹⁰⁷ <http://www.oecd.org/daf/ca/corporategovernanceofstate-ownedenterprises/48476423.pdf>

- Partial privatisation of sector e.g. more private abattoirs should be established nationwide to replace temporary slaughtering facilities, and a local specialised laboratory could be used for some of the BNVL tests.
- Outsourcing of management, e.g. in the case of LAC, better management of the supply chain and improvement of the procurements practises are needed.
- Private Public Partnership (PPP), e.g. where private extension officers would co-share the responsibilities of extension services with DVS staff.

Currently all the services mentioned above are provided by DVS staff for free. When these activities are privatized the costs will be borne by the farmers, or the government will need to make an active decision to subsidize the services transparently. It is highly recommended that an income survey of livestock farmers followed by a price sensitivity study is conducted to better understand:

- The percentage of farmers that could afford the cost of privatized services.
- The price at which these services should be set. The result of this work will enable both the government and private sector evaluate the potential business case.

4.1. Areas of consideration

Physical Resources

A possible merger of the services provided by the LAC and veterinary officers as well as input suppliers could be considered. These services could be co-located for improving productivity by providing better access to the farmers. BMC district managers could also be co-located at a future one stop shop to provide commercial inputs to the services provided.

Establishment of clusters

A key success factor of the pilot projects is the establishment of clusters at district or sub-district level for the delivery of all inputs and technical support services. The decision of the exact location and size of the cluster will be taken by the project team as the project unfolds.

Selection of DVS extension officers, private extension services providers and incentives

The selection of suitable, motivated, commercially oriented participants would be critical for the success of the exercise. An appropriate process to identify participants needs to be developed as part of the project's inception. Options would include, for DVS extension officers, selection according to their competences, previous performance, evidence of proactive delivery of services and commercial orientation. The private extension services operators would be recruited based on experience in providing veterinary services, geographical reach and submission of competitive business plans based on published parameters.

It is important that DVS extension officers, private extension services providers and other participants are appropriately incentivized to attract the highest quality candidates and also to keep them motivated. Incentives might, for example, grant for DVS extension officers a senior role during roll out phase and DVS commitment to private firms to expand partnership during roll out. The details of appropriate incentives would be developed as part of the design of the project.

Similarly, provision needs to be made for removing participants from the pilots that do not deliver on their commitments.

Dissemination and rollout

A dissemination strategy including site visits, workshops and publicity would need to be developed and budgeted for as part of the project. One of the key outputs of the project would be a rollout strategy.

Finance

Concrete discussions will be undertaken with CEDA seeking to create a formal arrangement to provide credit as necessary for private extension services firms, on CEDA's usual terms and subject to meeting eligibility criteria. The rigorous commercial and financial management as well as the close monitoring of performance envisaged as part of the project would likely make the pilot participants attractive candidates for credit.

The OIE PVS Gap Analysis has gone in great detail to demonstrate that DVS could be able to operate within the tight budgetary constraints once certain actions are taken such as reduction of the non-veterinary staff, hiring more veterinarians and increasing their salaries to close the gap with the private sector^{108,109}.

Since the participation of the private sector in the input industry could lead to increasing costs for the farmers, the government could continue support poorer farmers through a voucher system as suggested by FAOs value chain report¹¹⁰. In order to implement a cost efficient voucher program that will benefit only those in need a detailed survey will be conducted to understand market dynamics (including possible fees by farmers).

Linkage with other projects and programs

There are some government and donor initiatives and projects currently being implemented in the livestock sector such as LIMID Program aimed at supporting small herd farmers. Linkages and partnerships would be developed with appropriate programs to leverage resources and avoid duplication through the leadership of the Agricultural Hub, which was established in 2008 to "as a catalyst for the greater commercialization and diversification of the sector, as well as to improve food security."¹¹¹

At the same time, the project's design also allows for implementation of this component on a stand-alone basis.

Potential partners for creating linkages and enhancing coordination include:

- Botswana Beef Sector Training Initiative funded by the New Zealand Aid Programme.
- Other PSDP-related projects such as the one focusing on improving the practises of communal farming
- BCA as the nation's veterinary officers (technicians) training college
- MITI as the nation's meat inspectors training institute
- CEDA for providing funds for financing the establishment of SMEs.

¹⁰⁸ OIE PVS Gap Analysis Botswana Nov 2011

¹⁰⁹ JITAP - A Strategy for developing the Beef Sector of Botswana, Dec 2005

¹¹⁰ FAO - Botswana Agrifood Value Chain Project Beef Value Chain Study

¹¹¹ <http://www.moa.gov.bw/?nav=agrichub>

4.2. Key risks and assumptions

- Economic viability of the piloted private extension officer model. For this reason a farmers' income survey followed by a price sensitivity is necessary.
- Identification of committed, commercially oriented, and motivated DVS extension officers for the pilots.
- Committed participation of all key stakeholders in the project.
- Adequate capacity and qualifications of private extension officers.
- Quality of project implementation.
- Effective coordination of activities amongst DVS and private extension officers.
- Availability of physical resources that meets the appropriate selection criteria.
- Absence of external shocks, including significant deterioration in EU/regional beef export prices, substantial increase in meat prices, outbreak of diseases, etc.
- Identification and engagement of a project management team with the necessary skills to implement the project.
- Provision of effective training and appropriate incentives for implementation of better livestock management practices.
- Improvement of wider policy environment and restructuring of beef industry in Botswana to address its current weaknesses (some of which are highlighted in the background section).

4.3. Project management

Implementation of the project will be complex, requiring proactive coordination of a large number of participants, support organizations, TA deliverers, other TA initiatives and wider stakeholder groups. To the extent these are pilots, unforeseen events will be encountered and the project should be able to react quickly and effectively to address any emerging issues.

The Agricultural Hub would be the principal sponsor of the project, taking responsibility for its strategic guidance and coordination with stakeholders. The Hub would be supported in strategic matters by an advisory committee comprising BMC, DVS, the proposed Food Control Authority, DAP, a private sector representative (such as Techno Feeds).

DVS will play the leading operating management role, being responsible for providing operational guidance and monitoring and reacting to the pilots. The pilots will be integrated into DVS strategy and work plan and related milestones established and reported on within the organization. The project will employ a full time project manager, with the help of one support person to manage the pilots on a day-to-day basis. He or she will also provide technical advice and training to participants and support staff. The project manager will have in-depth technical and commercial experience of managing livestock operations in a similar environment.

The project will also be supported by CEDA for the areas where private entities are willing to participate as part of CEDA's ongoing efforts to promote entrepreneurship and expand the private sector share of the pie.

4.4. Preliminary budget estimate

Budget Costing Estimate	4 Years (BWP)
DVS Organization (strategy and organizational consulting, training, equipment)	1,060,000
<i>Disease Management</i>	750,000
<i>LITS</i>	
- Interface of LITS	250,000
- strategy of digital ear tag	250,000
- Implementation of digital ear tag	400,000
LACs	500,000
BNVL	700,000
Privatisation	
- strategy + systems + training	750,000
- training of private sector	500,000
Food Safety	200,000
Total	5,360,000

5. Next steps

The following are the suggested next steps in the detailed design and commencement of the implementation of the project.

1. Agreement of all key stakeholders on the key parameters of the project and their roles in it.
2. Securing preliminary expressions of interest for funding the project.
3. Detailed design of the project, including terms of reference for each key participant; a detailed budget; detailed logframe; a procurement plan for project management team; a plan for identifying and appointing livestock farmers; a training plan; details of scope of coordination with other projects/programs; and an outline dissemination and roll-out plan.
4. Commissioning of farmers income survey and price sensitivity research to better assess the economic viability of the pilot models and incorporating in the project design and adjustments necessary to reflect the findings.
5. Securing office space for the pilots.
6. MoUs between government agencies and MOA departments providing key support to the project.
7. Recruitment of the project management team.
8. Selection of participating extension officers (veterinarians and non-veterinarians) in the project, and entering into appropriate contracts with them.

Proposal for developing beef branding strategy and enhancing BMC marketing capacity

1. Background

As early as the 1930s, Bechuanaland's national herd had been identified by colonial administration as having a comparative advantage. The administration rapidly invested in access to water, fencing and an abattoir allowing the state to establish beef exports monopoly. The aim of the monopoly was to ensure that the state had a viable income stream, since few other economic sectors were successful.

After independence the abattoir, located in Lobatse, was taken over by the newly established Botswana Meat Corporation (BMC). A series of investment efforts led to beef representing up to 85% of the exports at the time of independence. In 1975 the government of Botswana signed the Lomé Convention that allowed exports to a new lucrative market (EU) at above the world markets prices. The cattle production industry remained the most successful and important agricultural sector. However, with the discovery of diamonds in the 1960s the sector gradually dropped its share of to the national exports to the low single digits. The beef sector remains strategically important, especially given its impact on rural livelihoods and since a large number of citizens are cattle owners.

In 2011 the Ministry of Agriculture applied for voluntary delisting of Botswana from third countries exporting to the European Union (EU) after the latter had observed deficiencies in official controls, abattoir operations and certification procedures. This restriction lasted 19 months.¹¹²

When the export ban was lifted in July 2012, there was a strong need for Botswana's beef to reach the export markets. At the time BMC opted for the quickest¹¹³ solution to outsource all sales and marketing efforts to Global Protein Solutions (GPS). Advocates of this decision argue that BMC could benefit from GPS' experience in the region, having a long-standing commercial success, exporting beef and brand building for Namibia beef. Before the agreement with GPS was signed the BMC's UK branch was leading the efforts to represent the mother company in the EU. There had been claims that BMC's UK branch was not properly managing beef prices, as stated by a report issued by GRM Consultants to BMC's Board at the time¹¹⁴.

With the great majority of its sales and marketing efforts outsourced from the HQs in Lobatse to GPS and the scope of its UK branch reduced significantly, BMC has greatly reduced its ability to gather valuable market intelligence data.

¹¹² FAO, Botswana Agrifood Value Chain Project: Beef Value Chain Study

¹¹³ Arguably not a long term solution for the sector or the farmers.

¹¹⁴ <http://www.gazettebw.com/?p=1604>

2. The project

2.1. Overview

The project will develop and initiate implementation on a pilot basis a national strategy for marketing Botswana beef exports, set up a communication plan with customers and consumers and promote branding. It foresees a market diversification looking for more countries within the EU and beyond, which could fetch higher prices and development of a second important sales channel either through BMC or a third party. The process and results will be recorded to enable both BMC the MTI and MOA to reliably evaluate the results. It will be coordinated by BMC's Strategy, Projects & Innovations Officer and managed by a dedicated project team.

2.2. Goal

The project aims at improving the prices that BMC receives in the foreign markets for Botswana beef and develop a product portfolio for BMC that will go beyond the current commoditised products with a particular focus on packaging, on-the-pack claims and introduce top-end packaging technologies in line with the premium positioned product.

2.3. Potential results

The proposed project would improve the prices received by the farmers, allowing them to increase their income and enable them to invest back in the sector. This result coupled with more market-oriented products will lead to:

- Creation of a Botswana beef national brand coupled with claims e.g. quality, sourced from communal farming, antibiotics and hormone-free
- Targeted public awareness of the brand and its benefits
- Strengthen BMC's marketing team whilst the BMC export monopoly exists
- Better understanding of global consumer trends and identify market niches where Botswana's beef could be sold
- Strengthening BMC sales team capacities and identifying new export partners for untapped markets within EU, Southern Africa and Middle Eastern countries
- Renew the ECCO food brand via modern packaging and artwork which would include claims such as "100% Botswana beef", "Made in Botswana"
- Launch a new brand of processed meat for human consumption to avoid confusion with ECCO pet food brand (or vice versa).

2.4. Botswana beef brand

The general public outside Botswana is not aware of the quality beef the country exports. Very little communication has been carried out to promote beef as a national product. Botswana has been granted a preferential relationship with the European countries through agreements between the EU and SADC region, nevertheless it has failed to take advantage of these agreements to better position its products in the lucrative but highly demanding EU market. The result is that the beef exported from Botswana is not sold at the best possible price.

A national strategy could be developed and implemented by the NSO in collaboration with Botswana Tourism Organization (BTO) and MTI to promote both Botswana and its beef as an export product. An international communication agency should be responsible to lead the efforts.

GPS needs to be consulted having the experience of developing the Namibian beef brand. Beef cuts should be packed at BMC's abattoirs in consumer-size packs and suitable labelling to be used to clearly communicate the origins of the meat and the appropriate marketing claims. A logo of guarantee of quality should be developed too.

2.5. BMC marketing capacity

The great majority of BMC sales and marketing efforts have been outsourced from the Lobatse HQs to GPS. In the meantime, the scope of BMC's UK branch has been reduced significantly, having been limited to four accountants¹¹⁵. As a result, BMC has notably reduced its ability to gather valuable market intelligence data. At the HQs level, BMC's marketing department lacks the skills and resources required to reach out to international clients across geographical regions.

BMC's Marketing department should be strengthened to accomplish the following tasks:

- a) Manage the relationship with GPS, following closely the marketing and sales efforts by the agent to develop the brand and increase exports to the existing export markets assigned to GPS
- b) Continuously benchmark export prices vs countries in the region to achieve best possible prices for farmers
- c) Seek, identify and develop new markets for existing or new products, including processed meat
- d) Seek, identify and develop new products for existing or new markets, including processed meat.

Overall, BMC needs to improve its independence and become more self-reliant in this area.

2.6. Processed food

In addition to be involved in the trading of beef cuts, BMC produces and markets processed meat under the ECCO brand. The cans are processed at the cannery located next to BMC's main production plant in Lobatse. The brand main product includes corned beef for human consumption and canned pet food. Despite the local sourcing, ECCO has struggled to dominate the market due to the presence of more aggressively sold products from South Africa and Namibia sold at parity or even lower prices. The use of the same brand name and logo for products marketed for human and animal consumption doesn't favour the sales and could confuse consumers.

Food processing at BMC is limited to canned food, omitting a wide range of untapped opportunities for processed products. Considering that cattle in the FMD with vaccination areas are either destroyed or sold to the cannery for little money, using the meat for sausages and patties, could help increase income for farmers from those areas. Potentially the Maun abattoir production lines could be upgraded to include a meat processing line and a heat treatment line to export heat-treated carcasses to either south Botswana or the Southern Africa region without the risk of FMD contamination.

¹¹⁵ Based on information provided by BMC staff

3. Outcome

The project will strengthen the beef sector for the whole country through:

- A more diversified export base
- more effective positioning of Botswana beef in different market segments
- Better understanding of market needs and trends
- Less reliance on one outsourced export agent
- Increase capacity and effectiveness of the relevant functions at BMC to export effectively
- The creation of BMC as a brand and drive awareness as a premium brand
- ECCO canned food brand upgraded appropriately
- Products diversified:
 - Chilled: Focus on market-driven cuts
 - Processed:
 - Expanded portfolio of processed foods; investment in new packing lines and heat treatment technology
 - Upgraded and expanded product offerings by ECCO brand.
- Market diversification:
 - Existing: Where possible grab outstanding opportunities in EU, RSA and Norway
 - New markets: Identify new markets.

4. Outputs

- Strategy report outlining BMC's priorities and action plan
- Strategy report outlining steps needed for brand awareness and brand building
- Report identifying new market and needs for new and existing products in existing markets
- Brand development for both chilled and processed food
- Increased capacity for processed food including more offerings for processed foods, in terms of pack sizes, product types
- ECCO brand packaging artwork modernized reflecting claims such as "100% beef", "100% Botswana beef", etc.

5. Activities

By way of illustration, indicative project activities include:

- Definition of a new BMC strategy, including the key steps for BMC brand¹¹⁶ awareness and brand building
- Identification of market needs and consumer trends
 - Identify need for new products in existing markets
 - Identify need for existing products in new markets
 - Identify new markets
- Installation of a new packing line for processed food.

¹¹⁶ Including ECCO canned food brand

6. Key risks and assumptions

Some of the principal risks and assumptions relating to the project include:

- Committed participation of all key stakeholders in the project, especially BMC management and staff.
- Quality of project implementation.
- Effective cooperation with GPS.
- Consistent availability of high quality beef to support brand.
- Effective coordination of activities amongst ministerial departments, BMC and GPS
- Absence of external shocks, including significant deterioration in EU/regional beef export prices, substantial increase in meat prices, outbreak of diseases, etc.
- Identification and engagement of the right people to staff the Marketing and Sales team at BMC with the necessary skills to implement the project
- Necessary funds to invest in meat processing lines and/or new packaging lines.
- Necessary funds to roll-out and maintain branding, promotion and advertising.
- Clarity of roles and responsibilities of all participating team members

7. Project management

Implementation of the project will be complex, requiring proactive coordination of a large number of participants, ministerial departments (MTI, MOA), parastatals (BTO, BMC), the private sector (GPS). The project should be able to react quickly and effectively to address any emerging issues.

BMC CEO will be the principal sponsor of the project, taking responsibility for its strategic guidance and coordination with stakeholders. He will be supported in strategic matters by an advisory committee comprising BMC's Strategy, Projects & Innovations Officer, MTI, MOA, BTO and GPS.

The Strategy, Projects & Innovations Officer will play the leading operating management role, being responsible for providing operational guidance and monitoring and reacting to the project. The project will be integrated into BMC's strategy and work plan and related milestones established and reported on within the organization.

The project will employ a full time project manager to manage the pilots on a day-to-day basis. The project manager will have in-depth commercial and international experience of managing projects in a similar environment.

Budget Costing Estimate	4 Years (BWP)
<i>BMC Branding & Strategy</i>	
- Strategy drafting	500,000
- Branding	750,000
- Staff training	400,000
- Travel & Accommodation	150,000
Total	1,800,000

8. Next steps

The following are the suggested next steps in the detailed design and implementation of the project.

1. Agreement of all key stakeholders on the key parameters of the project and their roles in it.
2. Securing preliminary expressions of interest for funding the project.
3. Ensuring adequate resources are available at BMC or from alternative sources to implement the project's recommendations.
4. Detailed design of the project, including terms of reference for each key participant; a detailed budget; detailed log frame(s); a procurement plan for project management team; a plan for recruiting the project team; details of scope of coordination with other projects/programs;
5. MoUs with MoA, MTI departments as well as BTO, BMC and eventually GPS providing key support to the project.
6. Recruitment of the project management team.

Proposal for strengthening Botswana's beef farmers' associations:

1. Background

The roles and responsibilities of Botswana's farmers associations are limited and there are a number of reasons. Firstly their members have a wide range of herd sizes, ranging from a handful up to those who own 100s of cattle, leading to a diverse range of needs too. The association members rely mostly on methods and practices transferred to them from previous generations of farmers. They lack market intelligence skills and the majority of them do not have visibility on the needs and requirements of the end consumers in the export markets. Furthermore, these associations mostly staffed by part time personnel, they lack infrastructure and structured communication channels with their members. Last but not least the associations lack a clear strategy and direction.

At national level the first effort to establish a farmers' association was the Botswana Cattle Producers Association (BCPA). It represented the regional farmer associations. BCPA's Board was made up of the Chairperson of each member farmer association. The BCPA was formed on an interim basis as a hybrid organization of 14 regional general farmer associations. This association was successful in spurring the current mechanism for setting export parity price for beef. It has since been replaced by the National Beef Producers' Union, governed by a Council that consists of the chairmen of locally elected district cattle producers' councils¹¹⁷.

2. The project

2.1 Overview

The project will focus on capacity building of the cattle producers associations at district and national level. Some of the intervention areas could include the drafting and implementation of viable strategy, strengthened networks amongst members and across associations and expansion of the membership base. Particular attention should be given to setting up a viable subscription system that will be both affordable for the members and sustainable for the future of the association. The increase of the productivity for the members should be at the forefront of the associations' priorities. The associations should be able to financially support secretariats and premises.

2.2 Goal

The project aims to strengthen Botswana's beef associations define a clear role, attain financial sustainability and develop capacity to provide more effective support to their members. Particular attention will be paid to the specific needs of farmers of different size of herds and those located in remote rural areas.

Some of the services farmers associations could offer:

- Following South Africa's example, advice on:
 - Product competitiveness
 - Product value adding
 - Animal welfare

¹¹⁷ FAO, Botswana Agrifood Value Chain Project Beef Value Chain Study

- Animal health
 - Sustainable use of natural resources
 - Consumer understanding and market intelligence
 - Beef cattle management software¹¹⁸.
- Following Namibia's example:
- Policy education and advocacy
 - Business advice
 - Information collection and dissemination
 - Networking
 - Project implementation
 - Land and environment
 - Livestock production and marketing
 - Agricultural labor issues
 - Support to agricultural shows
 - Auction Kraal Program.

2.3 Financial viability analysis including identification of sources of funding

The beef producers associations currently established in Botswana struggle to gather funds from their members or from other sources to remain viable in the future. They lack both administrative organization and technical capacity. In order for these associations to be able to prosper they need to generate funds.

Firstly, research should be carried out to evaluate the financial capacity of individual association members to pay membership fees. Secondly, the membership fees should be calculated, considering the size of the herd and the financial capacity of individual farmers to contribute to the association. Furthermore, associations should investigate other potential streams of income by organising e.g. beef festivals or family days requesting private firms to pay fees for participating. Once the annual budget is defined, associations committees can invest in both physical resources and developing services for their members.

2.4 Survey of members to identify needs and services associations can offer

The way beef producers associations in Botswana are organised based on geographical districts. While this approach brings together farmers from the same geographical area, sharing common resources and potentially the same issues, it also poses a challenge. Within the same association there are owners of large and small herds, communal farmers established in per-urban and peri-village areas as well as those located in remote areas, tens of kilometres away from the nearest village or road. Beef producers associations cannot assume that all farmers experience the same type of problems and that the same type of service provided by the association can fulfil the needs of all association members.

¹¹⁸ For example look at www.bengufarm.co.za which is a professional beef cattle management software package developed to make record keeping, administration, performance testing, selection, breeding, registration and general beef cattle management more easy and efficient.

A detailed survey should be run by associations amongst their members to identify and prioritise their needs and define the services they will provide. This approach will ensure that associations target the services to be provided and enable them to better manage their budget. Furthermore, associations will gain credibility and popularity resulting to a larger membership size and eventually income to be returned to the members in form of services.

2.5 Technical assistance to help develop sustainable strategies for the associations

Once the members needs have been identified, the next step is to define the association's strategy. Currently, despite the efforts of the associations to meet their members' needs, they all lack strategic guidance and vision. This phenomenon could be attributed to the challenge the associations face to identify common needs and priorities amongst their members and the dominance of large vs. small herd owners.

Technical assistance is therefore required by specialists in developing organizational strategy in collaboration with the association leadership. They will be able to translate the association member needs to a sustainable association strategy. The strategy will then be shared amongst the members for refining before being finalised. Particular attention should be paid to the implementation of the strategy, which is a general weakness area in Botswana.

2.6 Technical assistance and workshops to exchange ideas with regional and international associations

Botswana's beef farmers operate in silos with no official regular interaction amongst them nor sharing of farming practices or other type of know how. There are no records kept and knowledge is typically passed from parents to children and from cattle owner to cattle herder verbally based on what has been taught by their ancestors.

Extra effort will be required to develop a culture to keep records, share and be willing to learn new techniques, practices and apply innovative technologies amongst association members and among other associations at regional and international level. Regular workshops at national and international level should be organised to encourage the cross fermentation of knowledge. The great majority of cattle owners are fluent in English, which facilitates greatly the communication with foreign associations.

2.7 Training to associations on providing services to members

Training members is an area where associations could take the lead and make a significant impact for their members. Due to the fact that knowledge is shared mainly verbally with no record keeping there is no assurance that the training quality is consistent and adequate. Associations therefore need to be capacitated to firstly create the suitable curriculum and be taught how to train their members. The "train the trainer" training modules can be organised at national level with the help of academics from BCA in partnership with MoA. Some synergies could be drawn with the New Zealand aid Program funded Botswana Beef Sector Training Initiative.

2.8 Partnership or twinning with other regional associations and cooperation with EU beef associations

In the long-term Botswana's beef producers associations would benefit by a close partnership of twinning with regional associations to learn practices. In addition, relationships with EU beef producers' associations could facilitate the gaining of insights into the EU market. The potential

areas of cooperation with could include, disease management, traceability system implementation and management, husbandry, breeding techniques etc.

3. Outcomes

- Beef associations achieve financial sustainability
- Range of products and services for members developed and implemented.
- Pool of active association members expanded.
- Association members' productivity and incomes increased.
- Appropriate production and market standards adopted
- Viable and effective networks with other associations developed.

4. Outputs

- Diagnostics that looks at association needs
 - Members requirements
- Strategy report on:
 - How to develop the services and products to provide to association members
 - How association funding will be generated and managed
- Workshop(s) material to exchange knowledge and information
- Validate associations' strategy
- Define membership cost by completing an income survey for the association members
- Capacity building.
- Production and market standards appropriate for Botswana.

5. Indicative Activities

Indicative activities for the project include

- Organize a public-private dialogue with all stakeholders
- Define strategy for associations
- Identify capacity building opportunities and knowledge gaps for associations
- Organize workshop with EU farmer associations
- Identify production methods shortages and capacity building opportunities

6. Areas of consideration

Cost control

Human resources are a focal point for developing the associations. The priority would be to train the existing association members and avoid hiring new full-time association staff in order to keep running costs within their budgetary capabilities. The associations should be able to operate using their existing scarce resources if they are to be sustainable in the long term. Should additional human resources are needed cost effective options should be investigated such as part time staff and use of technology. Similarly, overhead costs, such as those relating to premises, require careful monitoring and control.

Public private dialogue and dissemination of information

All stakeholders both national and international would benefit from reviewing the information prepared by ITC, discussing the state of the sector and jointly determining the next steps. For the project to be successful it requires broadly spread support. Sustainability is a key concern where all project partners need to find common ground and address in advance of starting implementation.

A dissemination strategy including site visits, workshops and publicity would need to be developed and budgeted for as part of the project. One of the key outputs of the project would be a roll-out strategy.

Linkage with other projects and initiatives

Linkages and partnerships would be developed with complementary programs to leverage resources and avoid duplication. At the same time, it would be important to ensure that the project can be set-up on a stand-alone. Example of national programs with which synergies can be found include the New Zealand Aid Programme funded Botswana Beef Sector Training Initiative, and the ongoing Botswana College of Agriculture activities.

7. Key risks and assumptions

Some of the principal risks and assumptions relating to the project include:

- Economic viability of the beef producers associations
- Identification of committed and motivated associations members
- Committed participation of all key stakeholders in the project
- Technical assistance provided potentially wasted due to associations' lack of financial sustainability
- Clarity of roles and responsibilities
- Quality of project implementation
- Quality of human resources development and continuous training
- Lack of coordination amongst associations.

8. Project management

Implementation of the project will be complex, requiring proactive coordination of a large number of participants, support organizations, TA deliverers, other TA initiatives and wider stakeholder groups. Unforeseen events can be encountered and the project should be able to react quickly and effectively to address any emerging issues.

The Botswana National Beef Producers' Union would be the main coordinator of the project, taking responsibility for its strategic guidance and coordination with stakeholders. The MOA, given its sponsorship role of the beef associations, would be expected to play an important role in the project's governance.

Beef producers associations will have the leading operating management role, being responsible for providing operational guidance and monitoring of the project. The project will be an integral of the associations' strategy and work plan and related milestones established and reported regularly to their members and the BNBPU.

The project will employ a consultant to outline the strategy for the beef producers associations. He or she will also provide technical advice and training to participants and support staff. The project manager will have in-depth organizational strategy building experience.

Budget Costing Estimate	(BWP)
Private public dialogue	400,000
Associations Strategy	
- Strategy implementation	500,000
- Infrastructure	700,000
- Equipment	650,000
- Workshops	750,000
- Members training	750,000
- Travel & Accommodation	750,000
Total	4,500,000

9. Indicative Next steps

The following are the suggested next steps in the detailed design and implementation of the project:

1. Organize a private public dialogue on the key parameters of CDE's and other donor support, as well as the roles of the various stakeholders.
2. Securing funding in principle.
3. Detailed design of the project, including terms of reference for each key participant; a detailed budget; detailed log frame(s); a training plan; details of scope of coordination with other projects/programs;
4. MOUs with government agencies providing key support to the project.
5. Recruitment of project management team.
6. Commence implementation of project.

ANNEX II: LIST OF MEETINGS AND INTERVIEWS

Organization	Position	Name
Agrifeed	Managing Director	Mr. Ronak Upadhyay
Botswana Bureau Of Standards	Deputy Managing Director	Mr Teko T Fako
	Director of Standards	Ms Keolobogile Segomelo
	Manager Certification Services	Mr Adam E. Seuhula
Botswana Meat Commission	Acting CEO	Dr. Akolang. R. Tombale
	Executive Manager Compliance	Dr Boitumelo Mogome-Maseko
	Cattle Feeding Manager	Mr Galenyatsege Bathuseng
	Plant Manager (Lobatse)	Mr Marcus Kgosiemang
	Cannery Manager (Lobatse)	Mr. Mpho Molokwe
	Sales & Marketing	Mr. Oabona Ramotshwara
Botswana Institute for Development Policy Analysis (BIDPA)	Senior Research Fellow	Prof. Roman Grynberg
Botswana Vaccine Institute	General Manager	Dr. Onkabetse G. Matlho
Choppies	Head of Butcheries	Mr Jinoy Chrinayath
Citizen Entrepreneurial Development Agency (CEDA)	Chief Operations Officer	Mr Lesego Selotate
Consultant	Assistant to the Chief Operations Officer	Ms Otlaraongwa Chilume
GPS Food	Beef sector expert	Mr. David Cliff
	[position]	Mr. Brian Perkins
	Consultant	Mr. Steve Homer
Meat Inspection Training Institute	Director	Prof. Andrew Aganga
	Lecturer BCA (previously at MITI)	Dr. K.P. Sehularo
Ministry of Agriculture	Director, Department of Animal Production	Dr. T.K. Phillemon-Motsu
	Deputy Director Animal Disease	Mr. Kobebi Segale
	Agricultural Hub Coordinator ¹¹⁹	Mr. Edmond B. Moabi
	Agricultural Hub Coordinator ¹²⁰	Mr Neil Fitt
	Director, Department of Veterinary Services	Dr Lethogile G. Modisa
	Director, Agricultural Hub	Ms Mmadima Nyathi
	Deputy Director	Ms Chada Koketso
	Department of Animal Production	Ms Joyce Kapele
	Deputy Director, Field Services	Dr Kefentse Motshewa
	Deputy Director, Botswana National Veterinary Laboratory	Dr Marobela Raborokgwe
	Principal Veterinary Officer, Veterinary Public Health	Dr K. C. Thema
Ministry of Health	Principal Scientific Officer	Dr Hussain Tarimo
National Food Technology Research Centre	Acting Managing Director	Dr Martin Kebakile
	Director of Research and Development	Professor Lewis Ezeogu
	Chief Research Scientist - Food Safety and Nutrition	Dr Bernard Bulawayo
Organic Fertilizer Manufacturers Botswana	Sales and Marketing	Mr Ralph Ferreira
Quality Meat	Managing Director	Jaco De Villers
Southern District Beef Farmers Association	President	Mr Boyce O. Mhutsiwa
	Committee Member	Mr. Gahkwe Mojaphoko
Techno Feeds	Owner	Mr Rihan Swanepoel
TAD Scientific	CEO	Dr Gavin Thomson

¹¹⁹ As of 1st January 2013

¹²⁰ Until 31st December 2012