

# Improving competitiveness of SMMEs through the Private Sector Development Programme Botswana

Piggery value chain  
analysis and action plan

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Government of Botswana



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The findings and opinions expressed in this report remain those of the consultancy team and do not necessarily reflect those of the PSDP.

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## **Foreword**

### **Piggery value chain analysis and action plan**

The Piggery value chain study presents appropriate goals for the growth of the sector, among them the commercialization of the primary pig segment, the establishment of breeding farms, the up-scaling of micro farms and the establishment of more slaughtering facilities.

The study encourages the collaboration between the public and private sector in order to prepare the conditions for the development of the value chain, as well as to increase commercial agreements between farmers and commercial networks.

The action plan has been clearly defined and requires the mobilization of stakeholders to effectively implement it in order to facilitate investment and generate employment while building the capacities of the institutions and human resources that supports it.

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## Acronyms

BCA	Botswana College of Agriculture
BCU	Botswana Cooperative Union
BDC	Botswana Development Corporation
BMC	Botswana Meat Commission
BMO	Business Membership Organisation
BOBS	Botswana Bureau of Standards
CDE	Centre for Enterprise Development
CDE	Centre for Enterprise Development
CEDA	Citizen Entrepreneurial Development Agency
CICE	Centre for In-service and Continuing Education
DVS	Director Veterinary Services
EDD	Economic Diversification Drive
EU	European Union
FANR	Food, Agriculture and Natural Resources
FAP	Financial Assistance Policy
FARA	Forum for Agricultural Research in Africa
FDI	Foreign Direct Investment
FRHPP	Fighting Rural Poverty Through Piggery
ILRI	International Livestock Research Institute
IP	Innovation Platform
LAC	Livestock Advisory Centre
LEA	Local Enterprise Authority
MoA	Ministry of Agriculture
MSE	Medium and Small Enterprise
MTI	Ministry of Trade and Industry
NPAD	National Policy for Agricultural Development
PPM	Pig Production Marketing
R&D	Research and Development
RTC	Rural Training Centres
SACU	Southern African Customs Union
SADC	Southern African Development Community
SCARDA	Strengthening Capacity for Agricultural Research and Development in Africa
SME	Small and Medium Enterprise
SPVCD	Smallholder Pig Value Chains Development
UNIDO	United Nations Industrial Development Organisation
VC	Value Chain

## Executive Summary

This report on the Botswana pig sector is a component of the wider *Value Chain Analysis in Emerging Sectors*, a Government of Botswana initiative, undertaken under the Private Sector Development Programme (PSDP), which is supported by the European Union and the Centre for the Development of Enterprise. The main purpose of the study is to map the sector's value chain, identify key actors, highlight bottlenecks and upgrading opportunities, enabling the development of a national strategy and an action plan. Methodological tools used involved analysis of statistics and relevant documents, targeted interviews of 16 value chain actors, and benchmarking.

Major findings of the intervention are that:

- the total number of pigs in Botswana, mainly bred in micro/household farms, was estimated at less than 13,000 in 2012;
- the most common breed is the large white, mostly kept indoors and given feed;
- close to 60% of pigs are bred in the Gaborone and surrounding regions;
- pork consumption is very low at 0.6kg/per capita per annum (South Africa: 3.6kg) but local production (500t) represents only 33% of the total demand of 1,500t pa;
- pork is mostly consumed in the urban areas and 77% by the hospitality industry.

Although the piggery sector is not governed by a specific policy or institutional framework, it has benefited from the provisions of general schemes (FAP, CEDA). The sector is subject to import restrictions, notably for feed stuffs (maximum authorized: 30% of requirements).

The key features of the Pig Value Chain are:

- 6 large producers supply 800t of feed pa, valued at P2.5 million;
- feed accounts for 60 to 80% of production costs;
- for cost reasons, farmers tend to use cheaper but poor quality feed stuffs, resulting in low weight gains (average porker: 35kg);
- the piggery sector directly employs some 455 people in Botswana: 68% for primary production, 15% for processing, 15% for feed and other inputs and 2% for breeding;
- about 14,000 porkers are slaughtered every year, of which only 40% in the two registered abattoirs; 60% are slaughtered, illegally, on farm;
- the total pork chain is estimated at 1,200t boneless meat equivalent, valued at P34 million of which P27 million imported and P7 million locally produced;
- local pork sells at P28/kg (farm gate price) versus P22 for imported pork;
- retailers are supplied by only one processor;
- the gross margins are 9% for the farmer and 32% for the slaughter house;

Uganda has been selected as the most appropriate benchmark for the Botswana pig sector, because of significant success achieved in developing the industry (pig population 190 000 in 1981; 3.2 million in 2011) and increasing consumption to 3.4kg per capita. Lessons can be learnt from Uganda in the upgrading of the institutional framework (Pig Production and Marketing Ltd), production (supply of different breeds), processing (hygienic slaughtering, health risk threat inspections, grading of different cuts), and market channels (pork delivery services).

With the objective of upgrading the piggery value chain by reducing imports from 80% to 60% of domestic demand in 5 years, recommended actions include:

- Development of a comprehensive pig production policy, including a dedicated unit within the MoA, removal of the 70/30 feed constraint and import restriction;
- Commercialization of the primary pig segment. Activities in this area would include the establishment of breeding farms, the improvement of animal husbandry, the up-scaling of micro farms and the establishment of more slaughtering facilities. An indicative Action Plan is proposed.

# Introduction

## Objective

This report presents the findings of the pig sector component of the study "*Value chain analysis in emerging sectors*" undertaken under the Private Sector Development Programme (PSDP). PSDP is a Government of Botswana initiative supported by the European Union (EU) and the Centre for the Development of Enterprise (CDE). It aims to stimulate and sustain growth through diversification of the economy while building the capacities of institutions and human resources that support the private sector.

Value chain analysis is a useful tool for understanding the potential of agricultural industries, and through the application of this approach, new insights can be gained and valuable new strategies developed, both at the micro-economic (company) level and at the macro-economic (national) level. The value chain analysis in this report describes the overall value chain, apportions costs to the various elements within each segment and the relationships and mechanisms between them.

The methodology used involved a literature review of the sector, analysis of statistics, value chain mapping, survey of actors throughout the value chain and benchmarking against other countries. Based on this, a national strategy and action plan have been outlined for discussion by the stakeholders.



*The overall aim of this assignment is to identify potential markets, upgrading opportunities and constraints throughout the piggery value chain and develop a national strategy and action plan to develop this sector.*

# Overview of the Piggery Sector in Botswana

## Production

Botswana have kept pigs in their back yards for a very long time, mainly for household consumption. Commercial pig production was established in the early 1970s but the sector has grown little since. As a result, the country relies on the import of pork and pig meat products. In 2012, for instance, local production was estimated at 491 tonnes (t), while imports were 1,030 t. Thus, local production was only able to meet 32% of the domestic requirements (Division of Non-ruminants, 2013).

There are two production systems for pigs in Botswana: subsistence and commercial production. Under the subsistence system, a few pigs (usually Tswana breed) are kept in the backyard and are usually allowed to scavenge for their food. The pigs are provided with limited feed, usually in the form of domestic food left-overs or crop residues. The animals are normally kept in shelters at night. The pigs are then slaughtered and consumed by the households.

Commercial pig production entails keeping pigs solely for commercial purposes. The breeds kept are normally exotic breeds because of better productivity compared to the Tswana breed. Under the commercial system, the production systems can further be classified into semi-intensive and intensive systems. Under the intensive system, pigs are housed and never allowed to scavenge because they are given complete diets. Under this system, pigs are shifted from one pen to the other according to the production stage. In the semi-intensive system, mainly boars and sows are kept in outside shelters, but within a perimeter fence. According to Moreki and Mphinyane (2011) and Montsho and Moreki (2012) the semi-intensive production system is the predominant.

Pork and other pig products are sold in selected retail outlets, with some outlets not selling pork because of religious beliefs, for example Muslim-owned retail outlets. Actually, most butcheries do not sell pork meat. According to the Local Enterprise Authority (LEA, 2011), the main market for domestic pig products are chain-stores and supermarkets which collectively represent 83% of sales. They are followed by wholesalers and other distributors who sell directly to the hospitality industry, as the latter requires special cuts which farmers cannot provide. According to the Division of Non-Ruminants (2013), pork is mainly consumed in urban centres and this partly explains the concentration of farms in these locations.

## Geographical distribution of value chain actors

The majority of pigs are concentrated in the regions around Gaborone (17%), Francistown (13%), Mochudi (13%) and Kanye (13%).

**Table 1: Pig population by Type and Location 2012/13**

	Boars	Sows	Piglets	Weaners	Gilts	Porkers	Total
S/Phikwe	18	110	111	62	50	253	604
Palapye	20	175	204	288	-	-	687
Mahalapye	37	159	22	218	65	190	691
Serowe	11	70	95	350	76	16	618
Molepolole	21	142	257	215	74	221	930
Mochudi	42	249	366	487	120	199	1463
Gaborone	57	353	343	1087	116	263	2219
Kanye	45	298	386	540	125	230	1624
Lobatse	158	22	154	500	28	41	903
Francistown	17	247	375	247	20	778	1684
Tonota	14	85	106	102	61	223	591
Maun	10	34	79	13	15	75	226
Letlhakane	23	47	16	25	16	32	159
Hukuntsi	1	6	23	3	2	0	35
<b>Total</b>	<b>474</b>	<b>1,997</b>	<b>2,537</b>	<b>4,137</b>	<b>768</b>	<b>2,521</b>	<b>12,434</b>

Source: Division of Non-Ruminant Production, 2013

## Government Policy

There is no specific policy for the piggery sector. The sector operates within the guidelines of the National Policy on Agricultural Development (NPAD) of 1991.

### Government Initiatives in Support of the Piggery Sector

The piggery sector has benefited from a number of Government policies/programmes, although not specifically targeted at this sector. For instance, the sector has benefited from the Financial Assistance Policy (FAP) which was a grant subsidy scheme available to all sectors of the economy apart from diamonds and beef. The scheme benefited the pig industry, as promoters were able to access the grant to establish their piggery businesses. This scheme was replaced by the Citizen Entrepreneurial Development Agency (CEDA) which offers loans at subsidised rates. A number of piggery projects, including youth projects have also benefited from the assistance offered by CEDA. For example, the Division of Non-Ruminants (2013) reported that 18 projects have benefited from CEDA's Young Farmers' Fund. Additional 5 youth projects benefited from the Youth Development Fund, from the Ministry of Youth, Sports and Culture.

In addition, as an infant industry, the pig sector is subject to import limitations through the Control of Goods, Prices and Other Charges Act under the SACU agreement. It would appear, however, that this Act has never or seldom been enforced because domestic supply rarely meets demand thus there is no need to impose import restrictions.

## Domestic Control Regimes

Commercial piggeries are normally registered as businesses, and promoters are given a lease for the land on which they raise the pigs. The regulation on the “Control of Goods, Prices and Other Charges” requires pig producers to buy at least 70% of their feed requirements locally. This regulation is meant to protect the domestic feed manufacturing companies from competition from the well-established and efficient South African feed manufacturers, and is provided for under the SACU agreement. However, as assessed by LEA (2011), this impacts negatively on pig farmers because they are forced to buy sub-standard feeds locally which adversely affect their productivity.

## Business Support Services

In Botswana there is no single organisation that is promoting or regulating the piggery industry in a holistic manner but there are several organisations each supporting single components of the industry:

### Financing

CEDA offers long term loans to citizens for bankable projects at a much lower interest rate than commercial rate, of 5% per annum. CEDA is therefore the preferred supplier of credit by Botswana.

To be eligible for finance, a piggery project is required to have:

- a minimum stock of 100 sows;
- an abattoir within the sub-district. If not available, an abattoir must be included in the project;
- a reliable source of water.

Most pig farms find these minimum requirements impossible to comply with.

## Business Services and Business Membership Organisations

Like almost all sector associations, the Botswana Pig Producers Association and the Small Stock Industry Federation of Botswana have no dedicated resources (e.g., HR, communications, own offices) and have limited capacity to offer, among others, research for policy advocacy, information dissemination, technical support and continuous training and development to members. In one sub-district visited during the survey, the District Piggery Association branch had been allocated land for an abattoir several years ago, but the land remains unutilised.

## Institutional Strategy

The following institutions have developed strategic plans relevant to the piggery sector:

- Botswana College of Agriculture – Strategic Plan 2009 – 2016
- Small Stock Federation of Botswana: Was engaged through the support of SADC to develop “A Strategic Plan of the Botswana Small stock Innovation Platform for 2012/2013”<sup>1</sup>

The BCA plays a key role in agriculture training and development and therefore in the pig value chain. The missing link in the BCA Strategy seems to be the engagement of other stakeholders in the development of the strategy.

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<sup>1</sup>Focuses on Goats and Sheep, although the Innovation Plan now includes Dairy and there is a desire of the actors to include pigs.

As with the Goat Sector, the Strategic Plan of the Botswana Small Stock Innovation Platform arises from an initiative called Strengthening Capacity for Agricultural Research and Development in Africa project (SCARDA), originated by the Forum for Agricultural Research in Africa (FARA). SCARDA was funded by the Department for International Development in Africa. In the SADC region, it was coordinated by the SADC Food Agriculture and Natural Resources (FANR) Directorate.

The Information Platform (IP) in Botswana identified the Small stock industry<sup>2</sup> as a critical focus area and mobilized various stakeholders including farmers, input suppliers, traders, processors, retailers, regulators, R&D institutions and consumers into a common forum for the development of this subsector. The IP platform is meant to become “an intertwined process of commercial interdependence, stakeholder solidarity and increased communication partnership for optimum investment returns, efficiency improvement, economies of scale, resource mobilization, structural and process renewal, information exchange and shared reduction in risk exposure”<sup>3</sup>.

This Innovation Platform has faced implementation challenges including lack of funds and is currently inoperative.

### **Management and Technical Skills development**

The concerns of one large retailer, supported by some producers, point to issues of management and meat quality. Meat quality is affected by several of factors, one of which is the quality of feed. As indicated earlier most micro farms feed their pigs poor quality feeds, such as sorghum bran as they argue that concentrate feed is expensive. This negatively affects meat production, both in terms of productivity and quality.

A number of training courses are organised by the Division of Non-Ruminants for farmers at Rural Training Centres (RTCs) in order to improve their management and technical skills. In addition, technical courses are organised for extension staff, usually through the Centre for In-service and Continuing Education (CICE) of BCA. These extension staff are expected to impart knowledge to farmers. Despite their inputs, many farmers still lack the basic management and technical skills for pig farming. Efforts are therefore needed to train farmers in the technical aspects of pig production as well as business management abilities if the sector is to be commercially orientated.

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<sup>2</sup>The IP Platform in Botswana later included the Dairy sector

<sup>3</sup>IP Platform workshop report, 2012

# Piggery Value Chain Analysis

## The Piggery Value Chain

### Overview

In order to plan and survey the value chain in any sector, and then develop upgrading and expansion strategies, it is first necessary to understand the value chain itself. The “theoretical” value chain for the Pig sector can be divided into four phases as shown in Figure 1:

1. input suppliers;
2. production and processing;
3. wholesalers and processors;
4. distributors.

The value chain for the pig sector is described in the following sections providing inputs for each of the stages of production listed above.

### Input suppliers

The major inputs in the pork value chain are feeder pigs, feeds and veterinary services. The feeds are supplied by feed manufacturers who source their raw materials from the fodder producers and ingredients from other sources. The feed is supplied directly to the primary pig producers and pig breeder operations. The primary breeders’ role is to produce breeding stock for sale to farmers. Occasionally the breeders will have to cull their animals and sell them directly to abattoirs/slaughter houses. Veterinary services are also important inputs in pig production for the provision of drugs and vaccines to ensure health of the stock.

### Production and Processing

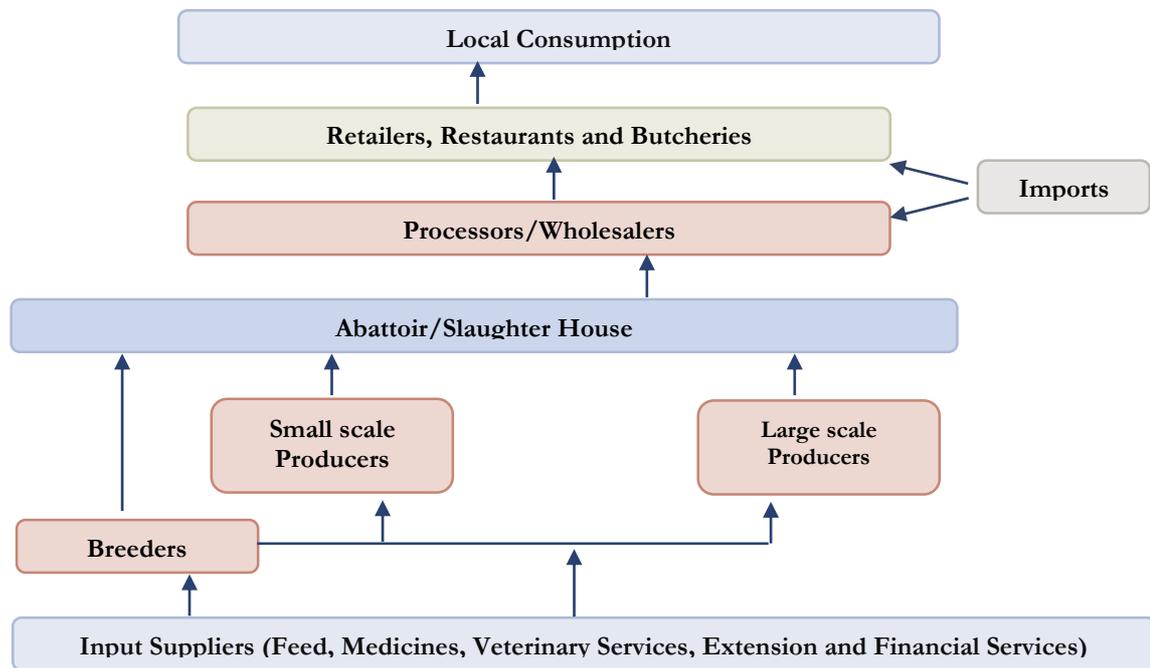
At this stage of the value chain there are two main categories of actors: pig producers and slaughter houses.

- Farmers: The primary role of pig producers is to produce and sell pigs. They buy piglets from breeders for fattening and eventual sale to abattoirs/slaughter houses. The pig producers can also produce piglets on the farm and fatten them for eventual sale to abattoirs.
- Abattoirs/Slaughter houses: The primary purpose of abattoirs/slaughter houses is to slaughter and undertake primary processing of the pigs.

### Wholesalers and processors

At the processing level, the abattoirs/slaughter houses slaughter pigs and sell them to wholesalers and processors. The processors further process the pig carcasses into different products. The wholesalers and the processors sell the products to the retailers, institutional buyers, restaurants and the hospitality industry.

Figure 1: Theoretical Pork Value Chain



### Distribution channels

- **Retailers/supermarkets.** The final consumer buys the end product in the retail stores/supermarkets. Depending on the level of local production and local demand, wholesalers and processors can either import or export pork products.
- **Restaurants and hospitality industry** source their inputs from the retailers, butchers or wholesalers. They use the pork products in their meal preparation for sale to fast food consumers.
- **Butchers** act as specialised retail outlets for meat and their primary role is to sell raw pork directly to consumers or to supermarkets and restaurants. There are limited number of butcheries selling pork and other pig products.

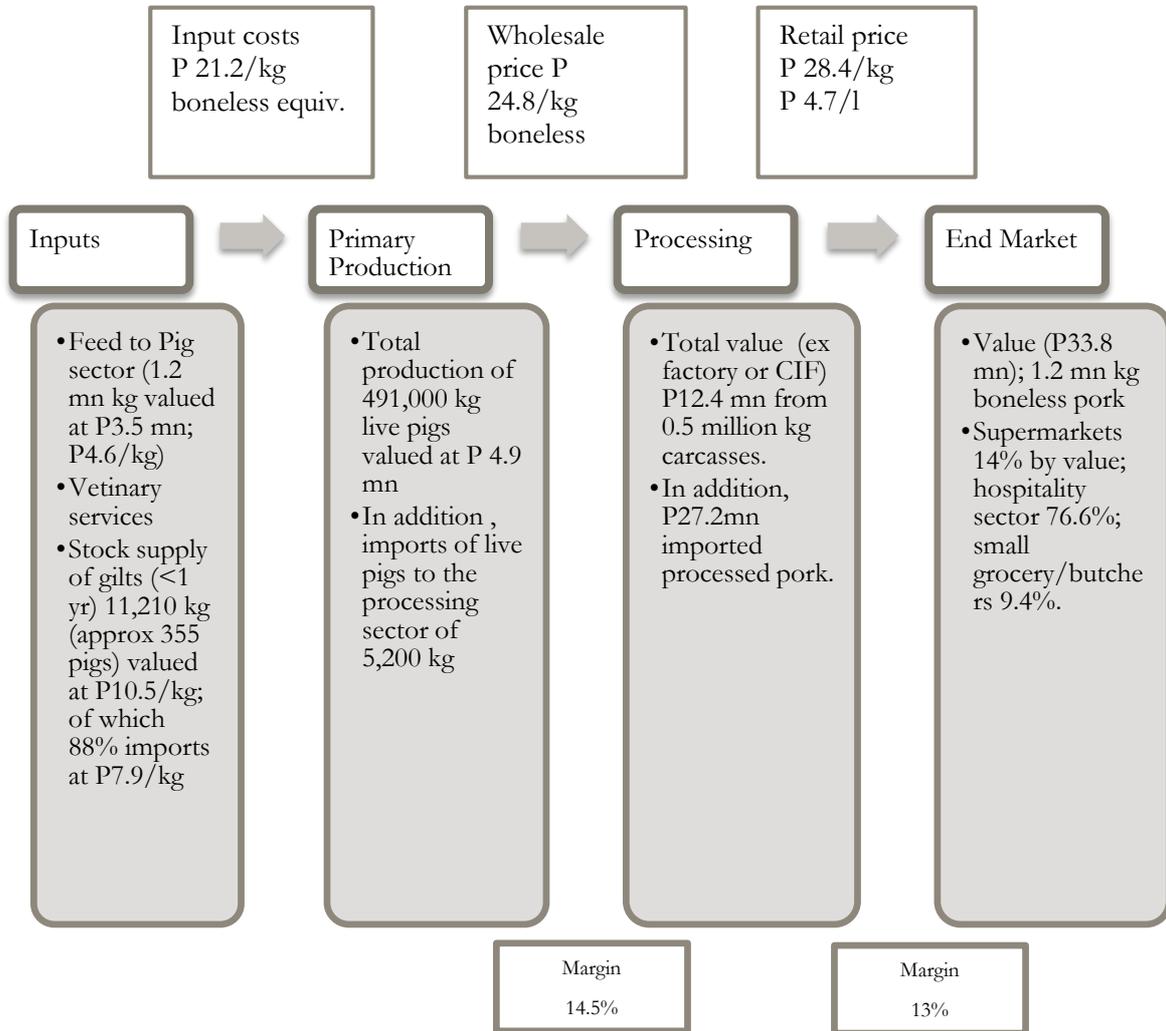
### Survey Approach

The survey of the pig industry was undertaken in Gaborone and the surrounding areas (Gaborone, Molepolole; Mochudi, Kanye and Lobatse) as these areas have a high concentration of pigs (5,000 pigs or 39% % of total stock - Table 1). The survey comprised 5 input suppliers and manufacturers; 6 primary producers; 3 processors and 2 retailers and butcheries.

## The Botswana Piggery Value Chain

The piggery value chain for Botswana, mapped and detailed in Appendix 1, is summarised below:

Figure 1: Summary Value Chain Analysis



The pork value chain in Botswana totals 1.2 million kg raw boneless meat equivalent. To calculate boneless equivalent, production coefficients have been used that determine the meat equivalent of carcasses and live pigs (Table 2)

Table 2: Pork Meat Equivalent of Carcasses and Live Pigs

Product	Production in Botswana numbers	Production Coefficients <sup>4</sup>	Boneless Meat Equivalent kg
Live Pigs - local	491,000	0.47	230,770
Live pigs - imports	5,200	0.47	2,444
Carcass - imports	4,833	0.53	2,561
Processed products - imports	959,391	1.00	959,391
<b>Total</b>			<b>1,195,166</b>

Source: 2014 Field Consultations

## Employment

Production of pork in Botswana (excluding retail and distribution) employs 455 persons. The majority of employment (68%) is found at the primary production stage; processing accounts for 15%, feed and other inputs for 14%, and only 2% for breeding. Although the majority of existing employment in the pork value chain is in primary production (pig rearing at micro scale), this has low earnings per employee, at P820 pa. The lowest contribution to employment is in breeding at P998pa. The processing sector has the second highest earnings per employee of P26,057, while the highest earnings per employee is in the feed and other inputs at P94, 272.

## Key Observations:

- *Whereas, imports of processed pork products equate to over 80% of the final market, development of processing (whether from domestic or imported carcasses) would produce the biggest impact on the economy*
- *Only 19% (230,770/1,195,666) of live pigs for processing are sourced in Botswana. This means that there appears to be considerable potential to develop the domestic sector to supply existing demand.*

## Inputs

There are six large feed producers in Botswana supplying pig farms and breeders, producing 800 000kg of feed per annum, valued at P2.5mn. Of the six large feed producers, five feed suppliers were interviewed in the survey. Feed is distributed to farms through five large feed suppliers/distributors who source 70% of feed locally to abide by the Government policy, and import the remaining 30%.

<sup>4</sup> University of Kentucky

**Table 3: Sampled Feed Producers and Distributors**

	<b>Feed Producers (proportion of pig related business)</b>	<b>Large Feed Distributors</b>
Number	6	5
Average production/sales of feed for pork sector	137,480 kg pa	70,704 kg pa
Average t/o (pig business)	P 412,440 pa	P 1.1 mn pa
Average number of employees	5	10
<b>Average ex-factory price</b>	P 3.0 per kg	P 3.0 per kg

Source: 2014 Field Consultations

From the survey it was found that the two large feed suppliers each supplied about 360 tonnes of pig feed on an annual basis. Given that it is estimated that there are five large suppliers of feed in the country, the estimated total supply from these suppliers stands at 1.8 million kg. The small feed suppliers are estimated to supply about 30 tonnes of pig feed on an annual basis. The estimated number of small suppliers stands at 15, hence the total supply from these suppliers is estimated at 450 tonnes. In total, the feed suppliers supply 2.25t concentrate pig feed. The remainder (506 tonnes) is supplied directly from the manufacturers to the pig producers. Over and above these, the feed suppliers also sell inferior pig feed (sorghum bran) to pig farmers, accounting for an estimated one third (92t) of the total feed. The sorghum bran is sourced from the milling industry of which it is a by-product.

The total feed requirements for the pork industry stands at 2.8 million kg assuming that each pig consumes an average of 86.24 kg in six months, and that 14,029 porkers are produced each year from about 2,000 sows. From the survey, however, it is evident that most farmers do not feed their pigs concentrate, especially the ones that are not being prepared for slaughter. Instead they feed them cheaper products such as sorghum bran or a mixture of concentrate feed and sorghum bran. It can therefore be concluded that the local feed requirement of 2.8 million kg is not being met, farmers using cheaper substitutes to feed their pigs.

The value of the concentrate feed is estimated at P8,5 million (average price of P230 per 50kg bag), while that of the cheaper supplement is estimated at P230 000. The total feed requirements for the whole pork industry thus stands at P8,7 million.

Of all the feed requirements in the pork industry, 30% are imported as this is the maximum allowed limit imposed by the Control of Goods, Prices and Other Charges Act. It is expected that the feed suppliers will import the maximum permissible amount as imported feeds are cheaper and thought to be of better quality than the locally produced feed.

Table 5 shows the wholesale prices of different feeds which range from P163.58 to P210.90, while the retail prices range from P175 to P267.90 for a 50kg bag. As indicated in the table, the price difference between the retail and wholesale prices is 22%.

Table 4: Feed Prices

Product/meal	Wholesale price P/head	Retail price P/head	Margin %
Pig creep	210.90	267.90	21
Pig weaner	190.55	242.94	22
Pig grower	178.53	228.94	22
Pig finisher	165.58	212.31	22
Dry sow	163.73	210.04	22
Lactating sow	177.00	227.06	22

Source: 2014 Field Consultations

The feed suppliers make a profit margin of 5-10% on concentrate feed and 10-20% on sorghum bran.

It is estimated that between 60 and 80%<sup>5</sup> of the cost of production are feedstuffs. Typically around two to three kg of feed yield one kilo of animal body weight gain. The average price of feed in Botswana is P4.46/kg compared to a global average of P3.5/kg (forecast 2014).<sup>6</sup>

In Botswana, the average feed cost is P10/kg (total feed value of P3.5 mn divided by 353,520 kg carcass equivalent at 0.72 technical coefficient)

The feeds sold by the input suppliers include: pig starter, pig grower, lactating sow meal, dry sow and boar meal. The feed suppliers indicated that they also sell bran to pig farmers. The average sales to the pig industry account for less than 5% of their business. Only one input supplier, of sorghum bran, indicated that sales to pig producers represent 30-40% of his turnover. Because of the limited number of pigs in the country, sales to the pork industry account for an insignificant share of the feed suppliers' turnover.

### Key Observations:

- *Given feed costs in Botswana are similar to global cost of feed, then pricing is not an issue. However, the amount of purchased feed is only a fraction of international norms, suggesting pigs are underfed or given alternatives which are less nutritious. It also suggests that although feed prices are comparable, affordability by farmers could be an issue (there is a need to separate cost of feed with cash flow/output prices)*

<sup>5</sup> <http://www.pigprogress.net/Breeding/Sow-Feeding/2009/4/Taking-control-of-feed-conversion-ratio-PP005927W/>

<sup>6</sup> <http://www.teagasc.ie/publications/2013/3043/ReviewAndOutlook2014.pdf>

## Primary Production

Around 66% of primary production of pigns derived from micro enterprises averaging 39 pigs slaughtered per annum per farm.

**Table 5: Pig Production by Type of Farm**

	Micro Pig Farms	Small Pig Farm
No	150	1
Average production of slaughter pigs	2,763 kg live weight (39 pigs)	176,531 kg live weight (1,531 pigs)
Average t/o	P 19,640	P 1.2 mn
Average number of employees	2	9
Earnings per employee	P 9,820	P 127,933
Average selling price	P 28/kg	P 28 /kg

**Source: 2014 Field Consultations**

In terms of selling price of live pigs, prices from micro farms and that of the small farms are the same. This is because the dominant processor determines the selling price. More than 300 persons are employed on micro farms (150 farms) compared with only 9 people employed in one small farm. However, earnings per employee in small farms are more than 12times that of micro farms.

The survey of producers covered six (6) pig producers in and around Gaborone. The farms kept on average 30 sows with a total pig number of 122. The farmers surveyed sold mainly porkers, with one farmer selling only 5 baconers. Only one farmer did not sell anything because the farm operation was still new. The average carcass selling price per kg is P28and this is dictated by a dominant processor as discussed below.

The most popular production system is the intensive one, where pigs are kept indoors and given feed. However, the amount and the type of feed given to pigs varies, with some farmers reportedly feeding low quality feed because it is cheaper, while others mix with concentrate feed to cut costs. It was also found that most farmers do not feed the different types of pigs the appropriate feed, with the majority feeding pig grower to all types of pigs. The reason for this is that the different types of feed are difficult to find and in some cases expensive, hence farmers rely on what is available at reasonable prices. As a result of feeding cheaper feed (sorghum bran), both the quantity and quality of meat produced is low, with a six month porker carcass weighing an average of 35kg, instead of the expected 38kg.

The most common breed is the large white, with five of the surveyed farmers indicating that they kept this type of breed. The remaining farmer indicated that he kept mixed breeds where he has crossbred the indigenous Tswana with exotic breeds. According to the Division of Non Ruminants Annual Report, the most widely kept pig breeds are the large white, landrace and the duroc. Most of the farmers sourced their first batch of pigs from other local farmers and the Government owned SebelePig Multiplication Unit. No farmer specialises in the production of breeding pigs (breeder). All farmers keep breeding stock as well as raising replacements from the same stock. This is fertile ground for in-breeding and hence low quality animals and pork.

On average the sows farrow twice a year, with average litter size of 13, of which 11 are born alive. The average proportion of mummies per litre is 9%, with pre-weaning mortality averaging 14%, while death rate averages 18.5%.

Most farms keep about 5 to 10 sows and employ about 9 persons, with only one farm keeping more than 300 sows. The Citizen Entrepreneurial Development Agency (CEDA) has provided financial assistance of P12 million to one farm.

### Key Observations:

- *Botswana pig farming is concentrated in micro farms. Given the difference in earnings per employee, efficiency gains would be achieved by scaling up production in micro farms.*
- *In 2013 there were a total of 12,728 pigs of which 1,997 were sows which produced 491 tonnes of pork. This means that each sow produced, on an annual basis, about 7 porkers weighing an average of 35kg. Given that the farm gate price of a porker is P28 per kg, the value of locally produced pork amounted to P13.7 million on an annual basis. Thus, annually, an equivalent of 14,029 porkers are slaughtered. This indicates that the size of the pork industry at the primary production level is quite low.*
- *Local market sells pork at P28, while imports are sold at P22 per kg; this suggests some inefficiencies or lack of competitiveness in the local market.*

### Processing

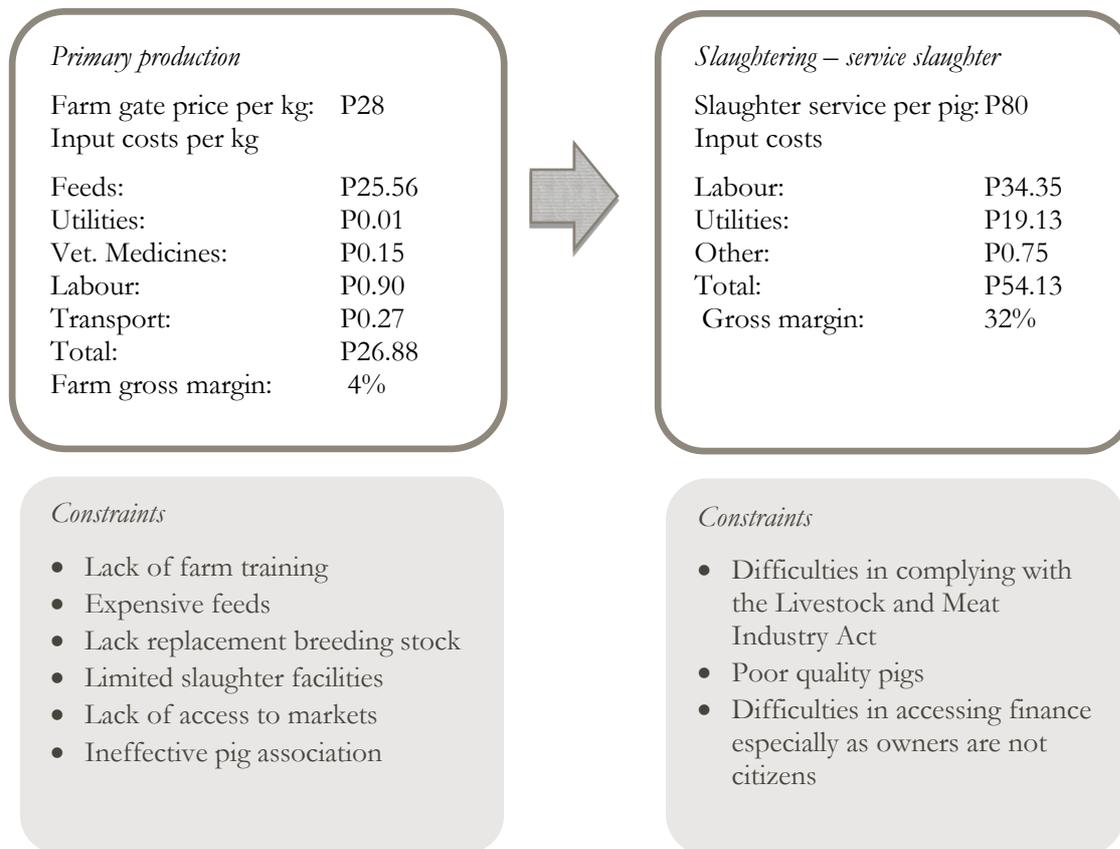
The processing sector consists of two registered slaughter houses, one in Gaborone and another in Sebina in the Central District. The slaughter house in Gaborone is a multi species slaughtering facility. It slaughters on average approximately 4,800 pigs per annum. The Sebina abattoir slaughters 780 pigs per annum. The bulk (66%) of the pigs slaughtered at the Gaborone abattoir come from one farm which has over 300 sows and is planning to construct slaughtering facilities on site. Thus, the two registered abattoirs slaughter a total of 5,600 pigs per annum, from the estimated 14,000 pigs slaughtered annually in Botswana (40%). The remainder (8,400pigs) are slaughtered on farm, contravening the Livestock and Meat Industry Act of 2006, a practice that poses a threat to human health as the safety of the facilities and meat are not inspected.

A number of slaughtering facilities that previously slaughtered pigs no longer do so. The limited pig slaughter capacity is one of the reasons why farmers resort to illegal slaughtering on their farms. The Gaborone abattoir reported that it was actually operating below capacity due to the quota of 50 pigs per day imposed by the Ministry of Agriculture. The plant could slaughter 80 pigs a day. Farmers who slaughter on the farm sell whole carcasses to butcheries in supermarkets who then cut the carcass into different cuts, with little or no processing at all.

The Gaborone slaughter plant employs a total of 9 employees for the slaughter of goats, sheep and pigs. One clerk is paid P1,500/month, and the 8 labourers P1,200/month. The Sebina plant has 5 employees. The total remuneration of the 17 employees in the slaughter sector stands at about P209,000 per annum.

Apart from the slaughter houses the processing sector also includes two main processors both in Gaborone. In total the two processors handle approximately 8,350 carcasses, with the bulk (8,186) originating from local producers and the remainder from imports. The amount of pork and pork products produced by the two processors is approximately 418 tonnes, with 82 tonnes being processed on farm or being sold to butcheries as carcasses. The products include pork ribs, sausages, ham, bacon and others. Both processors import specialised cuts such as ribs, boneless loin, skin and legs. One processor, which is also the largest, imports 924 tonnes, while the smaller one imports 18 tonnes of pork products annually. In terms of employment attributed to pork processing, the sector employs about twenty people.

Figure 2: The Subsector Value Chain Margins



### Key Observations:

- *There appears to be very limited processing of pork meat in Botswana with the majority of cuts and meat being sold through slaughter houses. Given the level of demand and volume of imported processed product, there appears to be an opportunity for more value added processing of domestic pig production.*

### The Pork Market

The market for pig products in Botswana is estimated at P33.8 million and is dominated by imports of P27.2 million, with domestic production of P6.6 million, representing only 20% of consumption. This is equivalent to a total market of 1,190 tonnes boneless pork products equivalent are (50% boneless and 50% on-bone products).

The hospitality industry dominates consumption of pork and pig meat in Botswana accounting for 77% of sales (by value), with 14% of sales in supermarkets and less than 10% in butcheries.

The retail market is comprised mainly of supermarkets that are supplied by one major processor (Senn Foods). There are, however, some supermarkets which do not sell pork products due to religious beliefs. There are a variety of pork products being sold in the retail sector, such as pork rashers, pork belly ribs, pork fillet, pork loin ribs, bacon, ham, polony, pickled gammon bone, sausages and others.

Moreover, the overall size of the pork market in Botswana is relatively small with average per capita consumption of boneless pork products at only 0.6 kg per capita per annum. This compares favourably with Kenya at 0.4 kg per capita but is much lower than South Africa at 3.6 kg and Mauritius, countries with similar GDP per capita to Botswana. In addition, per capita consumption is well below that of other countries with similar GDP with the exception of Islamic countries. In fact, Botswana's level of consumption is similar to that of an Islamic country with a comparable per capita GDP.

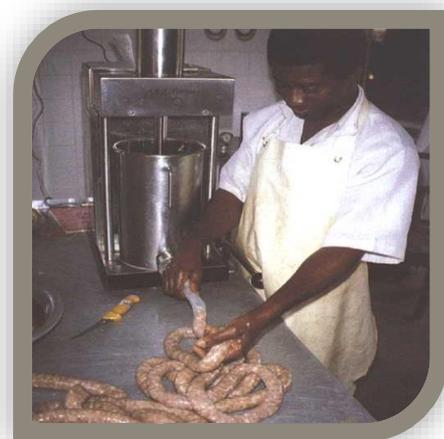
#### Key Observations:

- *Consumption of pork and pig products in Botswana is low. Considering most of the pork is sold to the hospitality sector (surmised to be for foreigners mainly), then an even smaller consumption rate is apparent. Therefore, if the market is encouraged, it could grow to 2,240 tonnes boneless pork equivalent (based on average per capita consumption of similarly developed countries of 11.1kg per capita per annum, multiplied by a population 2.021 million) compared with existing demand of only 1,190 tonnes. National campaigns could be used to increase pork consumption as a stimulus to the market and domestic production.*

## Lessons from Other Countries

### Piggery Value Chain Upgrading Lessons Learnt from other Countries. Case study: Uganda

The section presents lessons learnt from upgrading the pig value chain in Uganda using the case study of Smallholder Pig Value Chains Development (SPVCD) Project – Uganda. This Project catalyses on emerging smallholder pig value chains to increase rural incomes and assets implemented by the International Livestock Research Institute (ILRI).



The overall objective of the Project was to improve livelihoods, incomes and assets of smallholder pig producers, particularly women, in a sustainable manner, through increased productivity, reduced risk, and improved market access of the pig value chain actors. The specific objectives which were implemented by the Project in order to achieve the overall objective included: identification of market opportunities for pork in Uganda; interventions to address constraints caused by animal diseases; improved feed resources, and improved performance of markets and services; development and piloting/testing a set of integrated packages for smallholder pig production and market access for specific production systems, resource profiles and market settings in Uganda; and documentation, communication and promotion of appropriate evidence-based models for sustainable, pro-poor pig value chains.

#### Pig Value Chain Upgrading

The project facilitated upgrading of the pig industry by undertaking a number of firm-level upgrading activities as follows:

##### *Institutional Upgrading*

The Project recognised the role of improved advisory services in its attempt to upgrade the pig industry. In order to improve pig advisory services, the project chose to undertake institutional upgrading by establishing partnerships with private sector organizations responsible for offering advisory services through training for pig farmers and persons interested in taking up piggery as a business. Among the institutions it established partnerships which include:

- *Pig Production and Marketing (PPM) Ltd*, a company certified in Uganda has, as its long term vision, to modernize, promote and develop pig production in Uganda through providing secure and sustainable markets, advisory services and all necessary inputs to make the sector a reliable source of income for both smallholder and medium scale pig farmers in Uganda. The company worked with the SNCD project in building the capacity of pig farmers engaged in both small and medium-scale pig production. The training courses offered by PPM are demand-driven and farmers willingly pay a small fee for the trainings. The company also links farmers to input suppliers.
- *Fighting Rural Household Poverty through Piggery (FRHPP)*. PPM Ltd, also on its own, helps farmers overcome poverty through its FRHPP development Project by providing pig farmers good quality pigs freely or at affordable prices, advisory services and other inputs. The project is also

supported by other development partners such as Africa Rural Connect and Planet Changer International.

- The *Daily Monitor* is a leading newspaper in Uganda. The newspaper partnered with Pig Production and Marketing Uganda Ltd in offering a pig farming clinic on new techniques to improve pig production, including the preparation of sweet potato silage for pig feeding, control of parasites and bio-security measures to control African swine fever. These topics are part of the ILRI training modules on pig production. ILRI and partners produced sets of pig production manuals. The manuals include the following modules: Pig management: Ensuring appropriate husbandry practices for profitability, African swine fever, Parasite control in pigs, Pig business planning and financial management, Pig marketing and institutional strengthening, and Pig feeding strategies

#### *Production Upgrading*

- This was achieved through PPM Ltd producing pig meat which is hygienically slaughtered by professionals and well skilled people and the meat is inspected for health risk threats by area veterinary officers.
- PPM also guarantees production of fresh and tasty pork in all flavours and types by producing whole pork, premium 1 pork and premium 2 pork.

#### *Channel Upgrading*

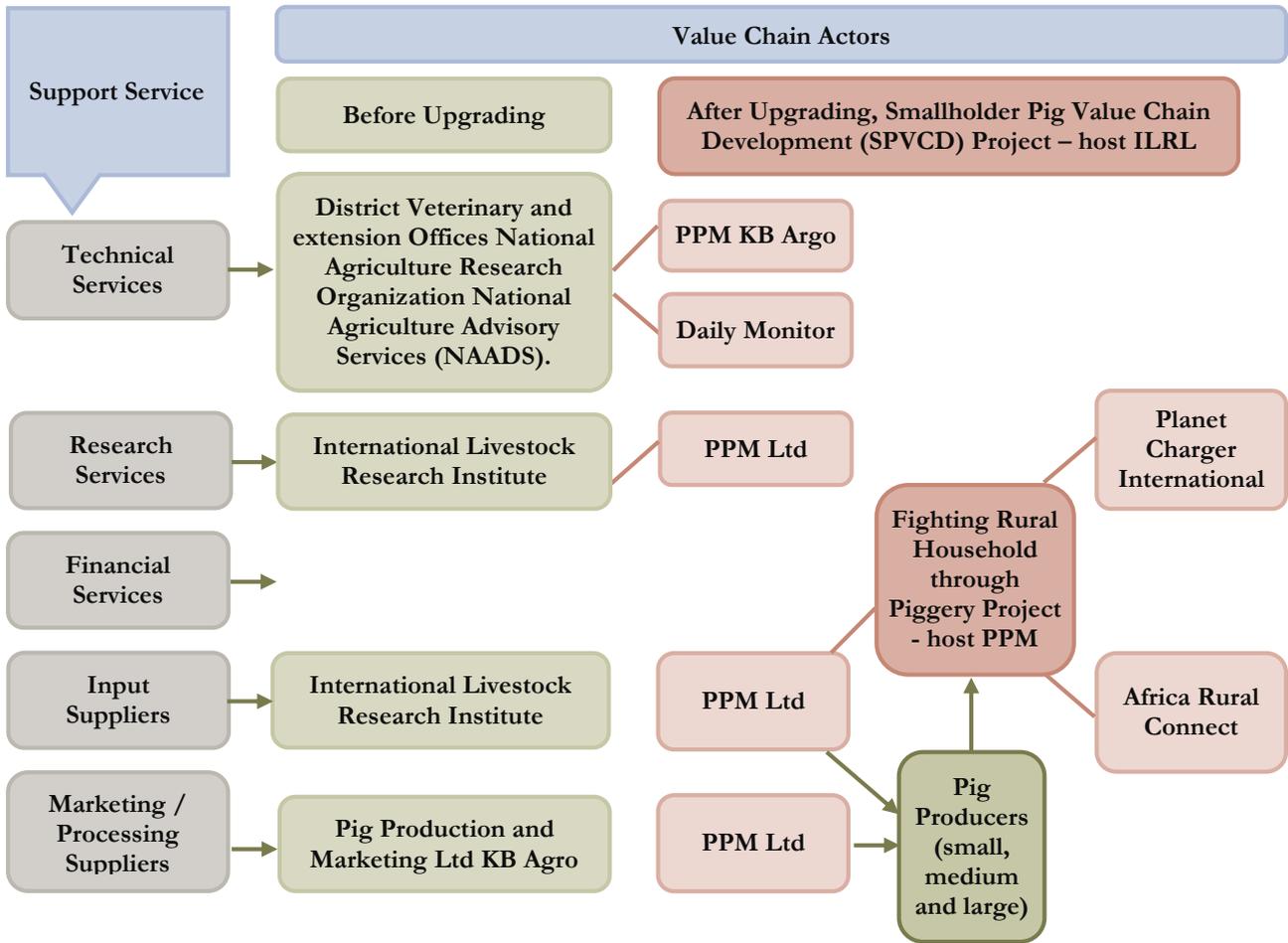
The company achieved channel upgrading through offering pork sales delivery service in order to reach out to new markets. Pork orders are placed a day before delivery date with a deposit of 50% of total value of the pork ordered. Delivery time for pork to areas near city centre is between 8:00am to 12:00pm every day only. Pork clients can as well collect their meat from the slaughter house starting from 7:00a.m. to 12:00p.m. every day.

#### *Functional upgrading*

Functional upgrading was achieved through PPM Ltd offering a number of services/functions related to pig farming and marketing through selling of healthy, fast growing and good breed piglets of Landrace, Large White and Camborough.

The company produces, buys and sells pork and related products in and outside Uganda. The company also helps pig farmers increase their farm production by training, providing them with quality piglets and marketing their farm produce. It also offers advisory/consultancy services to pig farmers and those entering the industry by making use of its long developed experience, skills, knowledge and professionalism in pig production. The consultancy/advisory services involves feasibility studies on the profitability of the industry, two-day training package in pig production and pig farming business plan development. The company follows up progress of farmers until their first sale from their farms; and also provide a reliable and sustainable market to such farmers/clients. The cost of these services are publicly made available.

Figure 3: Upgrading of Piggery Value Chain in Uganda



In Uganda, three most important types of pig production systems which are practiced, i-e:-

- Farrow to wean: breeding pigs to sell piglets to starting or restocking pig farmers.
- Farrow to finish: breeding and fattening own piglets for eventual sale.
- Fattening: buying piglets from breeders and for eventual sale as finished product.

### Project Upgrading Outcomes:

- Services for breeding, feed, and animal health accessible to both male and female smallholders
- Increased access to information about best management and production practices among male and female smallholders
- Conducive policy and institutional environment established
- Appropriate levels of investment in housing and better management practices
- Better selection within existing breeds, lower inbreeding index and introduction of improved genetic resources
- Better on-farm feed options and better use of local feedstuffs in appropriately formulated, locally produced feed rations, with seasonal variation minimized
- Improved piglet survival and offtake rates
- Improved pork safety
- Reduced transport and transaction costs
- Lower marketing margins and higher share of price captured by producers, regardless of gender
- Product and quality branding increases returns to value chain actors
- Market information more widely available

### Key Lessons of success:

- Development of partnerships with both private and public institutions such as PPM Ltd and government extension advisory services is important in improving the delivery of pig advisory services.
- Knowledge and capacity building of all players along the value chain through training, improve the capacity of both pig farmers and service delivery institutions.
- Offering of demand-driven training services which embrace cost recovery principles and willingness of training recipients, especially farmers, is a key variable in ensuring sustainability of the services beyond donor funding as was done by the Smallholder Pig Value Chains
- Development (SPVCD) Project which partnered with PPM Ltd in offering demand driven trainings at a fee to willing pig farmers.
- It is important to have a lead institution to implement value chain upgrading to ensure that all the required advisory services are available and delivered to recipients. PPM Ltd is a private sector company which played a leadership role in coordinating and offering services to almost all stages of the pig value chain from production to marketing in Uganda.

### Piggery Value Chain Benchmarking

The Botswana piggery value chain has been benchmarked against Uganda. Uganda has been selected because over the past three decades pig production has become increasingly important in this country with growth in the pig population from 0.19 to 3.2 million between 1981 and 2011. The country has the highest per capita consumption of pork meat in Sub-Saharan Africa with 3.4 kg/person/year in 2011. In terms of meat production, pork is second only to beef in Uganda.

# Recommendations

## Summary of Findings

It is clear from the analysis of the piggery value chain in Botswana that the industry is still undeveloped, with most farms keeping small numbers of pigs to supplement their main incomes. This means that farmers are not generally full-time pig farmers.

Due to this lack of commercialisation, farmers find feed expensive which leads to pigs being fed cheaper and inferior feeds. This results in low quantities of poor quality pork being produced.

There are also limited registered slaughter facilities for pigs (only two) leading to widespread illegal on-farm slaughter.



## Suggested Strategy

Based on the fact that the sector is still undeveloped, there is currently limited demand for end products and that over 50% of pigs for processing in Botswana are imported, the Government should:

- Focus on improvement of competitiveness for primary production of pigs for slaughter.

Strategic target for pig value chain upgrading in Botswana:

*The strategic target for upgrading the piggery value chain in Botswana is to increase the annual production of pig meat from 231,000 kg (boneless meat equivalent) to 400,000 kg, reducing imports from 80% to 60%, within 5 years.*

This production increase will result from higher productivity and yields through upscaling of farms from micro- to small- and medium-sized operations.

- If only 15 small farms were created through upgrading of existing micro farms (producing 560 pigs, each at 38 kg dw or 17.8 kg boneless meat equivalent), then an additional 149,500 kg boneless would be produced in Botswana.
- If existing small and micro enterprises were to improve productivity, then average weight of pigs produced for slaughter would increase from 35 to 38 kg, this would increase productivity by 9% of existing 231,000 kg boneless meat equivalent to 20,000 kg

In order to achieve this target, a number of strategic goals are proposed:

- ➔ *Development of a comprehensive pig production policy*
- ➔ *Commercialisation of the primary pig production segment*

## Strategic Goal 1: Development of a comprehensive pig production policy

The specific Objective of strategic goal 1 is:

*To create the environment within which a number of small and medium sized primary pig producers can operate competitively*

Activities to Achieve this Goal will include:

1. *Establish an effective national pig sector policy.* By developing a specific policy, this signals to business and farmers that the Government considers the piggery sector a viable, commercial development sector. Based on the need for this development, adequate resources from the central Government budget should be sought to enable effective implementation and funding of support activities.
2. *Establish dedicated unit in MoA for piggery sector development.* Real support and development of the primary production sector from an infant industry to a commercial sector requires a dedicated unit linked to appropriate and effective extension services to deliver assistance, programmes and training.
3. *Removal of 70/30 feed law for piggery sector.* The law requiring 70% local content of feed simply results in higher cost and low use, as well as lower quality of feed. By removing the requirement, a more competitive environment for feed will be created which will improve productivity and consistent use of feed.
4. *Remove import restrictions.* Although not enforced, such restrictive practice creates uncertainty in the business environment. Therefore, this restriction should be removed to prevent the same future market and value chain distortions that have arisen in the poultry and dairy sectors.

## Strategic Goal 2: Commercialisation of the primary pig segment

The specific Objective of strategic goal 2 is:

*To create and upscale a number of micro farmers into small and medium scale dedicated commercial pig farms*

Activities to Achieve this Goal will include:

1. *Establish dedicated breeding farms.* There is an absence of pig breeders dedicated to the production and supply of stock for primary production. Piggery value chain upgrading in Uganda has shown the benefits of have dedicated breeders, including selection and use of more productive breeds than the Tswana. The establishment of at least two breeder farms should be encouraged with both financial and technical assistance.
2. *Improve animal husbandry for pig farming.* The technical and business skills of micro pig farmers, who make up the majority of the sector, are limited. Therefore guidance and training on animal husbandry in areas such as intensification, housing, breeds and feed, and the benefits to productivity and profits should be used to commercialise the sector.

3. *Up scaling micro farms programmes.* The lack of even small scale pig farms in Botswana should be addressed to create economies of scale and efficiency in the sector. This should be undertaken through working with micro farmers to encourage up-scaling including loans, subsidised supply of stock, and access to housing for pigs.
4. *Establishment of commercial and/or government slaughter facilities.* The lack of slaughter facilities and widespread illegal home slaughtering means that the quality and quantity of slaughtered pigs for processing is limited. Increasing the number of slaughter facilities will reduce this.

# Action Plan

## Supervision, Monitoring and Evaluation

Table 6 details a proposed Action Plan with the objective of promoting a staged increase in the production of pork in Botswana. This strategy will require cooperation and actions by a broad range of stakeholders within the public and private sectors. Ideally we would recommend the formation of a strong supervisory and facilitation role for an APEX organisation that can coordinate and oversee implementation. However, at the stage that the industry has reached in Botswana, this development should probably wait until there are more, larger producers. Taking into account the current position, our recommendation is to set up a dedicated unit within the MOA to develop the pig sector.



Constitute a dedicated unit within the Ministry of Agriculture  
to develop the Pig Sector  
Ministry of Agriculture /LEA

## Institutional Arrangements

The MOA would be responsible for lobbying for the various recommendations put forward in this Report. These will cover the import policy for the feed industry and the provision of incentives aimed at encouraging growth in the number of larger pig producers. In addition, the Unit should take steps to improve the Extension and Advisory services available to farmers with particular emphasis on good husbandry techniques and veterinary services.

## Outline Action Plan

The following Action Plan provides an indicative schedule of activities to implement the strategy. The institutions involved in implementation, however, should review and revise the Action Plan on an on-going basis to ensure its accuracy and relevance, and reflect the changing dynamics of Botswana as well as the global market.

The Action Plan is purposely not final to ensure national understanding, acceptance and ownership of the action plan by stakeholders who will first need to discuss and complete the Outline, assigning Lead Agencies, resources and budgets.

Once these have been agreed, each component of the Action Plan must be elaborated into an Individual Work Programme. The Action Plan and Individual Work Programmes will need to be revised periodically to take into account the available resources, changing politics, commitment of the sector, international market dynamics and lessons from previous activities.

**Table 6: Detailed Action Plan**

Activities	Outputs	Result Indicators	Lead Agency	Duration (start-finish months)	Internal Resources	Other resources (Donors and National Budget)
<b>Overall objective</b>	<b>increase production of pig meat by 169,000 kg (boneless meat equivalent)</b>	<ul style="list-style-type: none"> <li>• creation of 15 small farms averaging 560 pigs</li> <li>• 15 new small farms producing, 150,000 (boneless meat equivalent)</li> <li>• Improve average weight of pigs produced for slaughter increasing from 35 to 38 kg</li> <li>• Productivity increasing result in 20,000 kg (boneless meat equivalent)</li> </ul>				
<b>Strategic Goal 1: Development of a comprehensive piggery policy</b>						
Specific Target	To create the environment within which a number of small and medium sized primary pig producers can operate competitively					
<b>Activity 1.1 Establish effective national pig sector policy</b>						
Task 1.1.1 Drafting of pig sector policy	National Pig Policy in place. Funds for Pig sector development are available.	Increased awareness and confidence amongst business and farmers of piggery as a commercial venture.				
Task 1.1.2 Discuss and agree policy with stakeholders						
Task 1.1.3 Policy adopted by central Government						
Task 1.1.4 Adequate funding from donors and central Government are secured						
<b>Activity 1.2 Establish dedicated unit in MoA for piggery sector development:</b>						
Task 1.2.1 Feasibility study on functions, staff and services required	Pig Development Unit is established in MoA	Provision of services specifically to the pig sector				
Task 1.2.2 Strategy and functions developed, not only in MoA, but its agencies such as extension services						
Task 1.2.3 Recruitment and training of						

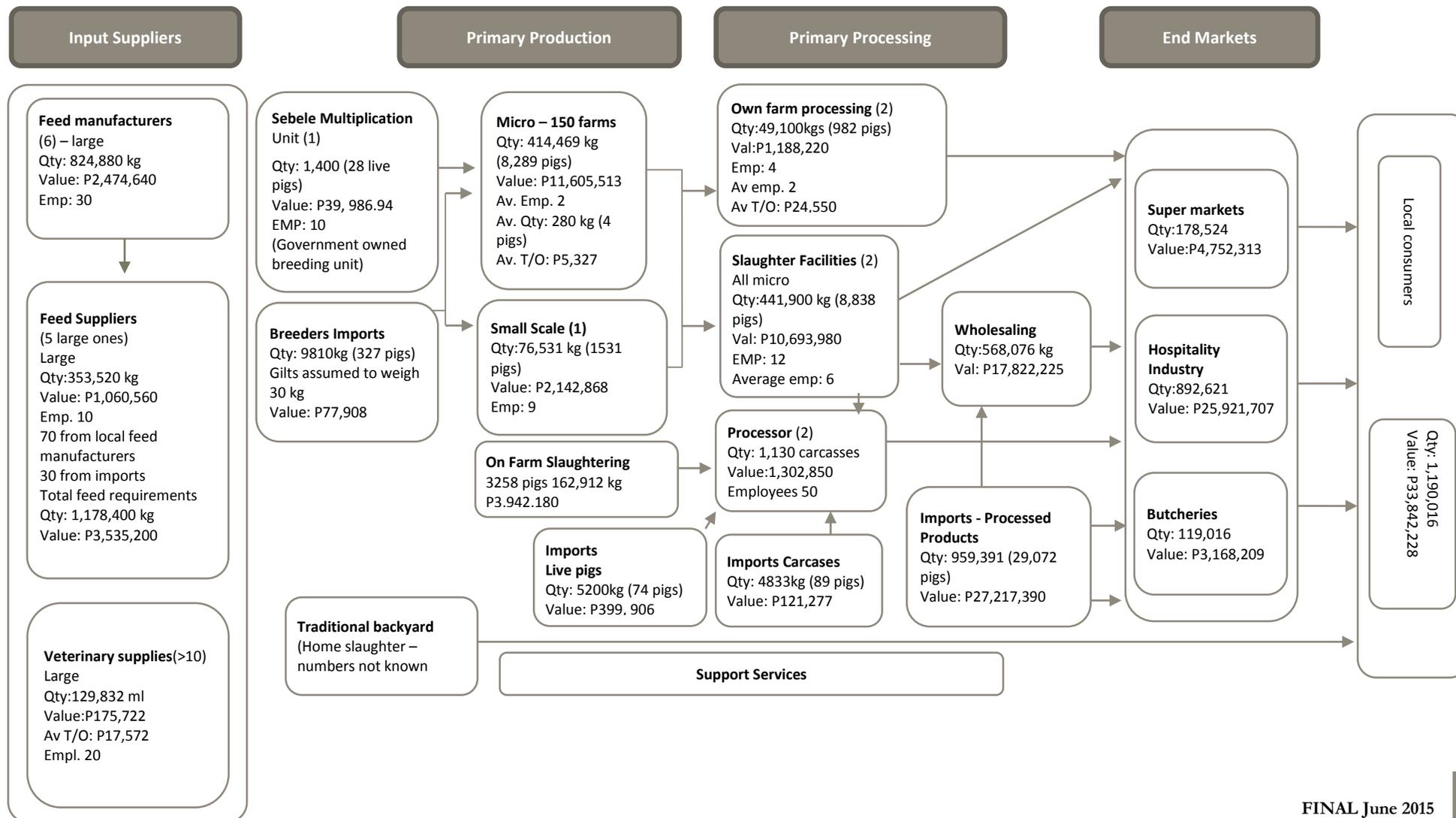
Activities	Outputs	Result Indicators	Lead Agency	Duration (start-finish months)	Internal Resources	Other resources (Donors and National Budget)
appropriately qualified staff at MoA and its agencies						
<b>Activity 1.3: Removal of 70/30 feed law for piggery sector</b>						
Task 1.3.1 Draft revisions in legislation and regulation of animal feed legislation	Reduction in the price of feed. Increase in quality of feed.	Increase in the consistent use of quality feed by micro farms.				
Task 1.3.2 Press announcement on complete liberalisation of national feed content requirement						
Task 1.3.3 Enactment of revised legislation						
<b>Activity 1.4 Remove import restrictions</b>						
Task 1.4.1 Draft revisions in legislation and regulation of pork meat imports	Revised legislation	Future guarantee of competitive environment which encourages investors				
Task 1.4.2 Enactment of revised legislation						
<b>Strategic Goal 2: Commercialisation of the primary pig segment</b>						
Specific Target	To create and upscale a number of micro farmers into small and medium scale dedicated commercial pig farms					
<b>Activity 2.1: Establish dedicated breeding farms</b>						
Task 2.1.1 Research into selective breeding techniques and their benefits.	Establishment of dedicated pig breeders	Increase weights and shorter “growth times” for pig production				
Task 2.1.2 Advertising and recruitment of investors/farmers wishing to develop into pig breeders						
Task 2.1.3						

Activities	Outputs	Result Indicators	Lead Agency	Duration (start-finish months)	Internal Resources	Other resources (Donors and National Budget)
Provision of technical and financial assistance to pig breeders						
Activity 2.2: Improve animal husbandry for pig farming						
Task 2.2.1 Develop a toolkit for pig animal husbandry	Development of animal husbandry guidelines and brochures specifically targeted at micro farms and their workers.  Awareness events at farm, village and district level.	Increase in efficiency, hygiene and weights of pigs				
Task 2.2.2 Develop programme of dissemination of information and awareness raising						
Task 2.2.3 Implementation of awareness raising programme						
Activity 2.3: Up scaling micro farms programmes						
Task 2.3.1 Design of small farm model including incentives	Supply of stock to small/micro farmers.	Larger micro farms and the establishment of small pig farms with larger stock				
Task 2.3.2 Promotion and assistance to micro farmers (technical and financial) to develop infrastructure such as housing						
Task 2.3.3 Supply of new breeds at free or subsidised prices (an incentive for new breeder could be guarantee initial purchase for production to micro enterprises)						
Activity 2.4: Establishment of commercial and/or government slaughter facilities						

Activities	Outputs	Result Indicators	Lead Agency	Duration (start-finish months)	Internal Resources	Other resources (Donors and National Budget)
Task 2.4.1 Feasibility studies for the establishment of regional slaughter facilities for pigs (either commercial or government funded)	Increased number of pig slaughter facilities	Increase in available slaughtered pigs (decrease in illegal slaughtered pigs)				
Task 2.4.2 Development and implementation of infrastructure (slaughter facilities)						
Task 2.4.3 If commercial, tender the management and operation of slaughter facilities in open and transparent manner. If government operated, recruit management staff and fund operational start-up.						

# Appendices

## Appendix 1: Detailed value chain Map



## Appendix 2: Directory of Organisations by VC Stage

### Inputs

#### *Feed Distributors*

#### 1. FEED CENTRE

THE AGRI SHOP  
PLOT GICP  
PRIVATE BAG BO 125  
GABORONE  
Tel: 3902365/3186115/3912693/3164550  
Fax: 3901395

#### 2. AGRICHEM S.R

TLOKWENG  
P.O. BOX 428  
GABORONE  
Tel: 3928926  
Fax: 3928690

#### 3. LIVESTOCK ADVISORY CENTRE

Ministry of Agriculture  
Private Bag  
GABORONE

#### *Feed Manufacturers*

#### 1. NUTRI FEEDS BOTSWANA

PLOT 55 PILANE  
P/BAG 17  
MOCHUDI  
Tel: 5728375  
Fax: 5728387

#### 2. Tholo Holdings

Gabane  
Tel: 3939495

#### 3. MAYA ENTERPRISES T/A

EGG HEAD POULTRY  
P.O. BOX 3311  
GABORONE  
Tel: 3933825

### Primary Producers

#### KWENENG DISTRICT

#### THAMAGA/MOGODITSHANE

1. Tina Bayford
2. David Mathe
3. Tiny Healy
4. Moffat Dube
5. Feargal Mokobela
6. Polelo Moseki

7. Philp Tarasana

8. Chola

#### MOLEPOLOLE/ LENTSWELETAU MMA (ADULTS)

Catherine Marakalalo  
Kgosietsile Lekone  
Zibani Maundeni  
Oris Dipela  
Victor Bontsi

#### MOLEPOLOLE/ LENTSWELETAU YOUTH

Kabo Ntebela  
Agisanyang Kgabung  
Kgaotsang Sugape  
Malcolm Mphinyane  
David Molosi  
Motswakhuumo Busang

#### NORTH EAST

B.Barnard  
K. Ludick  
T.Sechada  
T.Makhiya  
M.Malikongwa  
C.Russel  
Tjuma  
C. Katumbela

#### SOUTHERN DISTRICT

Ronald Stegling  
Kabelo Olerile  
Mogare Manoni  
Kenetswe Williams  
Molokisi Donga  
Belinda Phalelo  
Moakafi Mongati  
Mothankaotsile  
Ronald Kgengwenyane  
Monty Desai  
Kgomotso Mothake  
K Mokone  
Onkutlule Tirelo  
Pontsho Mothopi  
Janseu Investment  
Koos Fred  
Moshiya NDEBU  
Bakang Ramooki  
Benny Stegling  
Enest Selotlogelo  
Otladisa Cliford  
Mompoti Supang  
Nelson Bachopi  
Tsotlhe Koboyankwe  
Bafana Tiroyaone

Oagile Maswe  
 Philip Somolekae  
 Sebolelo Bethel  
 Mariam Raie  
 Kgalelo Tuelo  
 Ezekiel Chimbombi  
 C. Assessor  
 T Mosalakatane  
 Keefile T. Tau  
 Kgololo Lotlole  
 Tiroyamodimo Monageng  
 Solomon Marapo  
 Tshidi Kowa  
 B. Kwape  
 Julia Gakubu  
 Onkemetse Bailelwang  
 Realeboga Mosime  
 RAVOS  
 Emanuel Kelosiwang  
 Rebaone Sesankwane Business  
 Pig Right (PTY) Ltd  
 Stephen Sefolosa  
 Ramaphatle Piggery  
 Unaswi Makgowa  
 Ontiretse Florence Koobokile  
 Phillip Senau Babitse  
 Kolobetso Majeremane  
 Mpho Tlhabiwe  
 Tekolo Metswi  
 Baoleki's Veggie Mart  
 Masdin Piggery  
 Mabogo Dinku  
 South East District Piggery Agricultural Management  
 Association (SEDPAMA)  
 BONGWE FARM  
 Margret's Piggery  
 Udo Hahn  
 Chimney Mwahamubi Mululwani  
 Media and Telecom Africa (Pty) Ltd  
 Christina Tieties  
 Barbara Nomie Molefe  
 Dark Line Investments (Pty) Ltd  
 Food net Holdings (PTY) Ltd  
 Look At You  
 Kin investment  
 Kgaotsi 's Piggery Pty Ltd  
 Anneline Diana Titus  
 Mersh-Power Piggery Production  
 Chipa Otsile Koolese  
 Moalosa Kgetsi (Pty) Ltd  
 Bathomphi Motshabi

## Processing

### *Slaughter Facilities*

Whitebok (under new management)  
Gaborone North

Meat Inspection Training Institute  
Lobatse

Dikgomo Farm  
Sebina

Selibe-Phikwe Manucipal Abbattoir

### *Pig Processing Plant*

Senn Foods  
Tlokweg

### Appendix 3: Business Support Services

INSTITUTION	PURPOSE/ MANDATE	SERVICES/EFFECT ON PIG VALUE CHAIN
<b>Government Ministries</b>		
MOA	Agric policy, promotion and programmes	Agricultural policy; Extension services; Department of Veterinary Services; Livestock Management & infrastructure development programme (LIMID); Department of Agri-Business promotion; Export, movement, import permits
MTI	Trade & industry policy, promotion & programmes	Private Sector Development Strategy & Programme; Trade Policy, Strategy, Negotiations & Implementation; Economic Diversification Drive; Industrial Upgrading & Modernisation Programme (IUMP); Business licensing;
<b>Government Agencies</b>		
Meat Inspection Training Centre - BCA	Training centre	Meat inspection training; Slaughter floor operation training (Meat technology);
<b>Business Membership Organisations</b>		
BOCCIM	Apex Membership support organisation	High level Advocacy; Business organisations capacity development
Botswana Pig Producers Association	Membership support	Advocacy; Representation; Information; Membership services
<b>Training and Research Institutes</b>		
Agricultural Hub, MOA	Transformation of agriculture	Commercialise and diversify agricultural sector (as part of Vision 2016)
BCA	Agric Education, training and research	Education & Training; R&D; Linkages with University of Botswana for additional R&D
BOBS	Development of National Standards	Standards
BVI	Animal vaccines development & sales	Provision of animal vaccines
LEA	Technical assistance & Training	Technical assistance & Training; Value Chain analyses

*The PSDP is an initiative of the Government of Botswana, represented by the Ministry of Trade and Industry and Ministry of Finance and Development Planning, in partnership with the European Union*



Government of Botswana



European Union



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