PRIVATE SECTOR DEVELOPMENT PROGRAMME BOTSWANA

Value chain analysis in emerging sectors (meat (piggery, goats and poultry), dairy and leather) under the framework of the Private Sector Development Programme (PSDP), Botswana.

BWP/1304/01/GO

Draft Inception Report

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Introduction

This inception report represents a quick overview of available research, statistics and policy documents relating to the meat, dairy and leather value chains in Botswana which have been identified as "emerging" sectors. This will form the basis for subsequent phases of the assignment which will seek to update and build upon existing research, especially the relevant Situation and Value Chain Analyses undertaken by the Local Enterprise Authority in Botswana (LEA), whose research the Private Sector Development Programme (PSDP) based it prioritisation on, and whose findings led to this current study.

The overall aim of this assignment is to identify potential markets, upgrading opportunities and constraints throughout the value chains being investigated to develop national strategies and action plans to develop these sectors. This will be broadly based on the following methodology:

Review of existing research and analysis of the value chains
Field research to update knowledge base and identify constraints and opportunities within each value chain
Develop strategies, roadmaps and detailed action plans for value chain expansion and upgrading

This inception report is seen as the first major pre-cursor to the effective launch and development of a participatory approach value chain study and strategy development. Based upon this existing bank of knowledge, the project team will meet in Botswana to develop a detailed workplan for the field research which will be presented and discussed with CDE-PSDP coordination unit and key stakeholders in a working session to agree the focus and next steps to be undertaken by the team during the field research.

This report provides the baseline upon which the assignment will be built and outlines the current level of understanding and highlights knowledge gaps that will be completed during the field research phase. Even where there is existing data and information, this is often dated and although may still be valid, it must be checked and validated before being used to develop a national strategy or roadmap.

Specification of Value Chains

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 chains itself. The following section looks at the "theoretical" value chain for each sector which will form the basis of the research and analysis presented in further chapters.

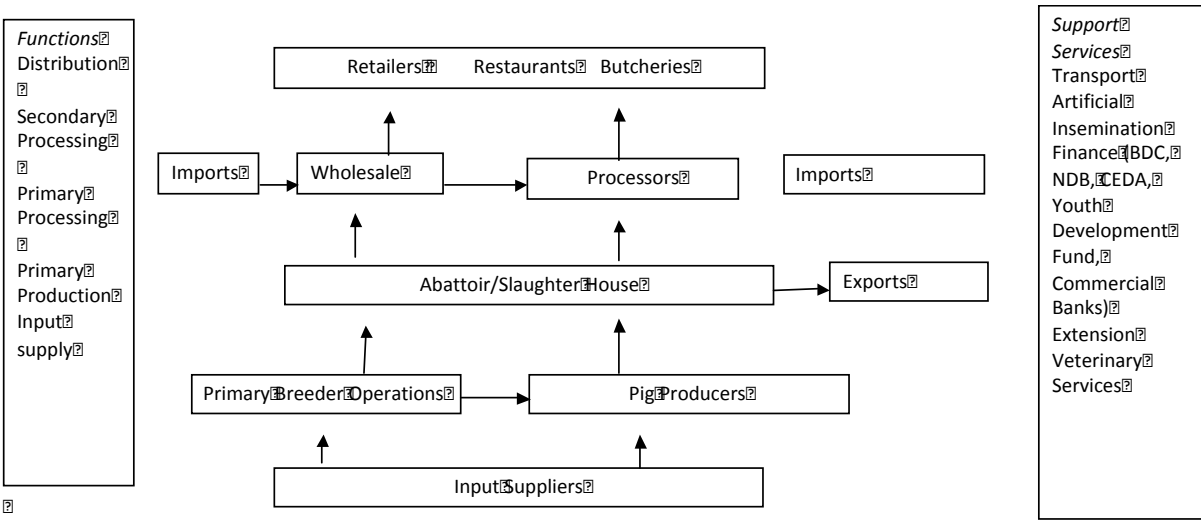
Meat (piggery, goats and poultry)

The beef value chain in Botswana is well developed and will not be analysed specifically in this assignment except where it impacts upon the other value chains concerned. As regards to the "non-traditional" meat value chain sector, this assignment will examine pig, goat ad poultry chains.

PIGGERY VALUE CHAIN

Figure 1 shows a theoretical pork value chain and the responsibilities of each of the actors are discussed below:

Figure 1 Pork Value Chain



Input suppliers

The major inputs in the pork value chain are feeder pigs and feeds. 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 other important inputs in pig production are veterinary drugs and vaccines.

Production and Processing

At this stage of the value chain we have two main actors: primary breeder operations and pig producers.

- Breeders: 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.
- Farmers: The primary role of pig producers is to produce market prigs. They buy piglets from breeders for fattening and eventual sale to abattoirs/slaughter houses. The pig producers can also produce piglets in the farm and fatten them for eventual sale to abattoirs.

- Abattoirs/Slaughter houses: The primary purpose of abattoirs/slaughter houses is to slaughter and do 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 carcases into different products. The wholesalers and the processors sell the products to the retailers, institutional buyers, restaurants and the hospitality industry.

Distribution channels

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

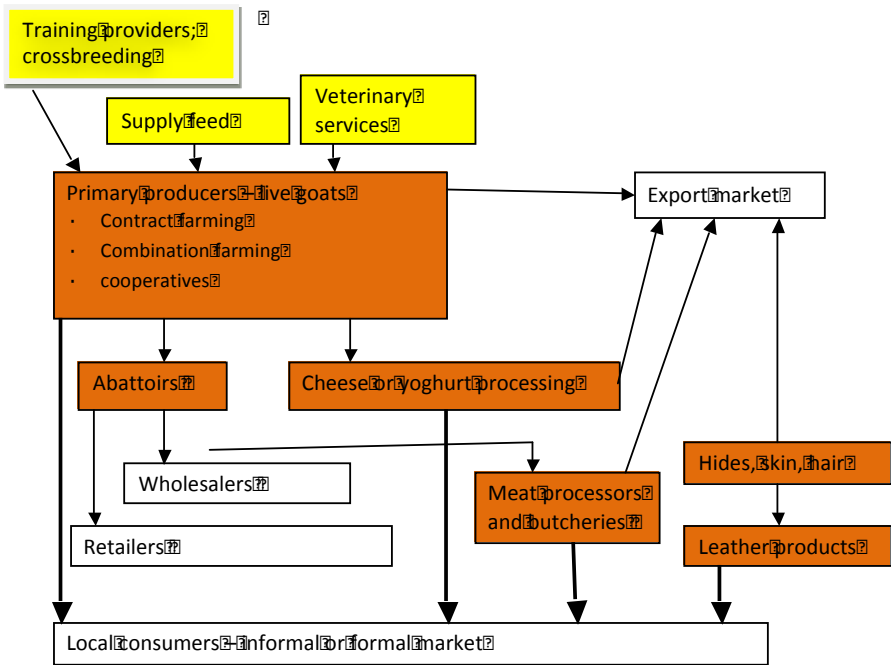
GOATS VALUE CHAIN

A well developed goat meat value chain has numerous opportunities that among other things can create the following opportunities for all involved;

- Opportunities to service goat farms as providers of training, feed or veterinary services.
- Opportunities to boost goat production through investing as primary producers of live goats – to supply direct to consumers (local or export market) or to abattoirs.
- Investment in dedicated goat processing facilities and abattoirs.
- Investment to expand downstream production of value added goat meat, milk, cheese and yoghurt products as well as goat skins and hair.
- Opportunities to further process goat meat that is destined for the retail market or direct to consumers.

Theoretically, a goat meat value chain model which was developed by Mthente Research and Consulting Services in South Africa in 2013 for the North West Province (NWP) was adopted partly because of the similarities in production with local producers and the influence the NWP producers have in the local sector with regard to importation of superior breeding stock.

Figure 2: Theoretical value chain (adopted from Mthente, 2013).



As illustrated above, there are a variety of opportunities within the goat product value chain, ranging from input suppliers, labourers and goat farmers involved in the primary stages of production, to processors, distributors, wholesalers, retailers and consumers of processed products (Mthente, 2013).

The initial stages of the value chain involve the breeding of goats for eventual use in the production of goat meat or skins, or to be reared to provide milk for the production of goat milk products and cheese. In the North West, many goats are sold live by farmers at livestock auctions or to individuals in local communities for use in cultural or traditional ceremonies (Mthente, 2013).

The processing of goat meat can be divided into two stages: primary and secondary processing. Primary processing involves the slaughter of live animals to convert them into carcasses. In turn, secondary processing involves the conversion of carcasses into meat products. Secondary processing can involve comparatively simple activities such as dissecting the goat carcass into various cuts or deboning to primary cuts; or it may involve additional value adding processes such as the production of dried meats, spicing or vacuum packaging. The key role players in the secondary processing segment of the value chain include abattoirs, deboning plants, butcheries and, further downstream (Mthente, 2013).

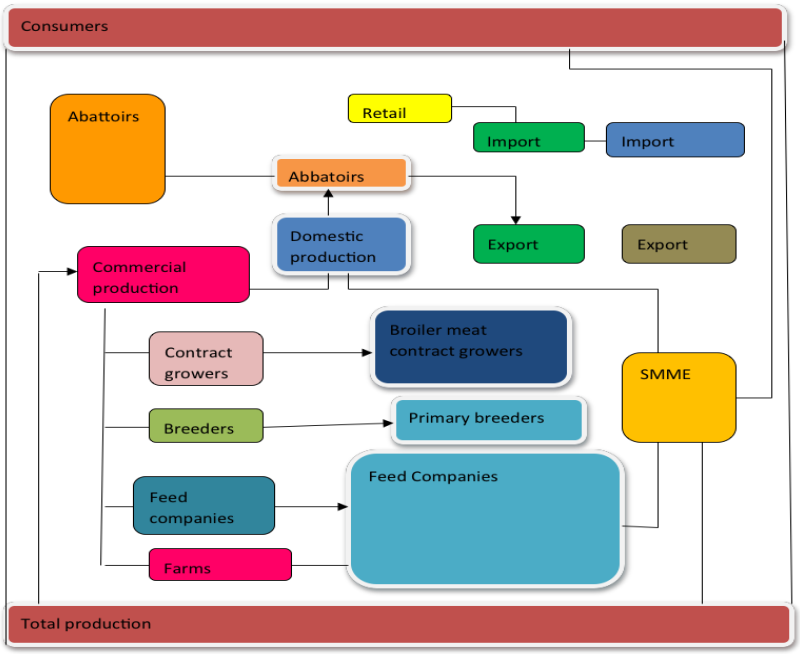
Goat skins are a by-product of the goat meat value chain. The skins are removed during the slaughtering processed and, thereafter, used either as non-tanned skin to produce parchment or drumheads and sounding boards for musical instruments, or by tanneries to produce tanned leather., wholesalers and retailers (Mthente, 2013).

POULTRY VALUE CHAIN

The value chain consists[1] of farms and contract growers, feed companies and other input suppliers and breeders. In the secondary sector, they are abattoirs, importers, exporters and retailers. There are around 48.6 million consumers with a per capita consumption of 35.8%. Production in kilograms is around 1, 367 million, consumption around 1,717 million, imports 202 million and exports 8.6 million (DAF&F, 2012).

[1] The South Africa's poultry value chain was used as reference.

Figure 3: South Africa's broiler meat value chain (Source: Department of Agriculture, Forestry & Fisheries (2012))

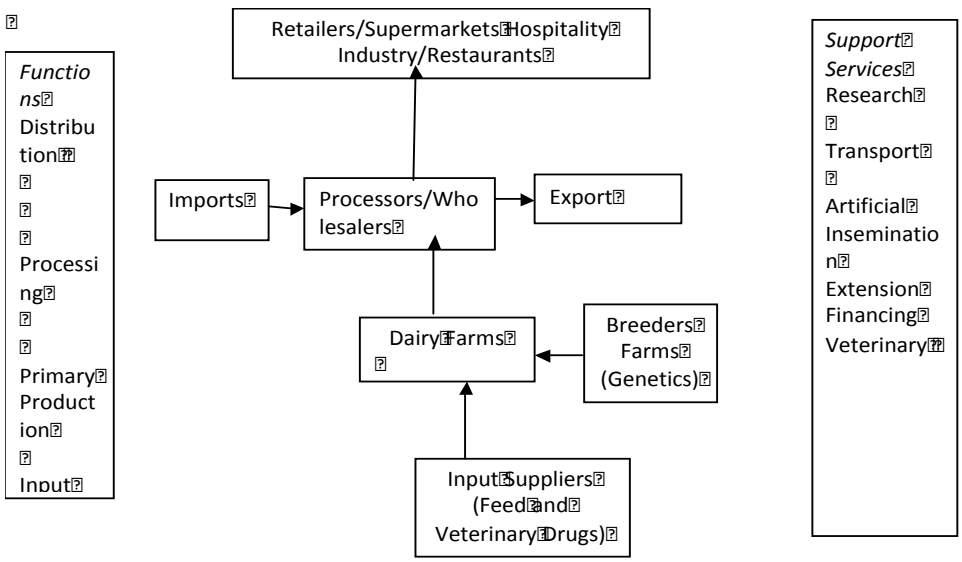


Broiler meat production is by two sectors; viz, commercial and small scale. Live broiler meat is marketed through two channels, live broiler meat market and abattoirs. Majority of broiler meat from commercial production is sold through abattoirs while small scale through live broiler meat market. Live broiler meat market depends on hawkers and small retailers for distribution to consumers. Abattoirs slaughter broiler meat and sell it as carcass to processors and packers, who in turn may export, sell to retailers or further processors. Processors and packers and further processors also rely on imports for their supplies. Further processors (polony, chicken spread etc) sell to retailers for final distribution (DAF&F, 2012).

The Dairy Value Chain

Figure 4, below, shows a theoretical dairy value chain. The figure shows all actors required for a complete value chain. The chain starts from the input suppliers until the final/end product, fresh milk and other dairy products.

Figure 4: Dairy Value Chain



INPUTS AND THEIR SUPPLIERS

The major inputs in dairy production are the dairy cattle and the feed. The feed comes from feed manufactures that source their raw materials mainly from fodder producers and ingredients from other sources. The dairy stock is sourced from breeders. The other inputs are the dairy equipment which will be sourced from different equipment manufacturers and distributors.

PRODUCTION AND PROCESSING

- Breeders: includes production of the dairy stock including research on the best genetics. They sell these improved animals to the dairy farmers.
- Farmers: manage the dairy stock. The cows are used to produce milk for sale to processors and wholesalers for further processing and distribution.
- Processors and wholesalers: process fresh raw milk from farmers into different products such as fresh milk, yoghurt, cheese and other products, and pass them to distributors.

DISTRIBUTION

- Retailers/supermarkets: Retailers and supermarkets distribute the processed dairy products as end products to the final consumers.
- Restaurants: These use the processed products as ingredients in the food they prepare to sell to their customers.
- Institutional buyers: These include facilities such as schools and hospitals, both public and private. They normally buy fresh milk and other dairy products in bulk.

SUPPORT SERVICES

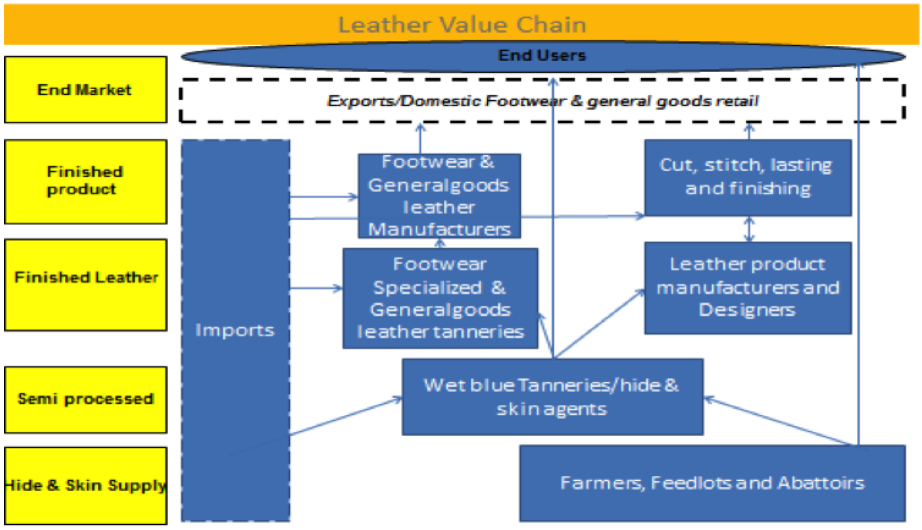
For the value chain to work well there is need for support services. In the dairy industry these include research in animal breeding, transport services, extension services which help farmers on the best production and management techniques. The other services include Artificial Insemination (AI) and veterinary support services in the form of drugs, vaccines and treatment of sick animals. The other important support service to the dairy value chain is financing, especially at primary producer level and processing. This is so because dairy equipment and dairy cows are very expensive and farmers require credit to purchase these.

Leather

The Leather sector can be divided into three core sub-sectors:

1) raw hides and skins production, collection and commercialization;
2) tanning and leather finishing;
3) leather products manufacture, consisting of:
    - manufacturing of footwear;
    - manufacturing of other leather products.

Figure 5: Leather Value Chain



INPUTS TO SEMI-FINISHED AND FINISHED LEATHER:

- bactericides, sodium sulphide, sodium hydrosulphide, wetting agents, slaked lime, caustic soda, sodium carbonate, enzymes, ammonium chloride and sulphate, organic acids, sodium chloride, sulphuric acid, formic acid, organic solvents, chromium salts, sodium bicarbonate, vegetable tans, glutaraldehyde, sodium formate, organic tannins, dyes, fat liquors and finishing agents (pigments, resins, dyes, auxiliaries).
- (Some chemicals, such as common salt, lime and sulphuric acid can be procured from local market.)

FOOTWEAR AUXILIARIES:

- textile and synthetic upper and lining materials;
- leather, PVC, rubber, soles, heels;
- leather, cellulose, leather board, insoles;
- toe puffs, shanks, stiffeners/counters, adhesives, and other components;
- auxiliaries (e.g. threads, nails, reinforcing tapes, laces, buckles, decorations, zip-fasteners);
- adhesives, polishes, etc. finishing chemicals;
- shoe lasts, moulds, cutting dies, hand and machine tools;
- packaging materials and accessories;

LEATHER GOODS AUXILIARIES:

- locks, zips, buckles, frames, fasteners, rivets, lining materials, etc.;

PRODUCTION EQUIPMENT:

- tannery machinery (e.g. wooden drums, fleshing and splitting machines, drying units, shaving and finishing equipment);
- equipment for leather products manufacturing (e.g. clicking presses, sewing machines, equipment for lasting, making and finishing of footwear);
- work handling and storage equipment for a factory configuration (e.g. racks, work transporters).

These inputs are important factors for production and quality and contribute to costs in value addition.

Non-Traditional Meat Value Chain in Botswana

Piggery Value Chain

OVERVIEW OF THE SECTOR

Production

Batswana have kept pigs for a very long time in their back yards, mainly for household consumption. Commercial pig production started in the early 1970s and the sector has not grown much compared to the poultry sector. As a result of this the country relies on importation of pork and by-products. For instance, in 2012 local production was estimated at 491 tonnes, while imports were 1030 tonnes. Thus, local production was only able to meet 32 per cent of the domestic requirements (Division of Non-ruminants, 2013).

As indicated earlier there are two production systems for pigs based on the commercial orientation; the subsistence and commercial production systems. Under the subsistence system of production a few pigs (usually Tswana breed) are kept in the backyard and are usually allowed to scavenge for their feed. 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 normally slaughter and consumed in the households. On the other hand commercial pig production entails keeping pigs solely for commercial purposes. The breeds kept are normally exotic breeds because of their 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 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 some classes of pigs, usually boars and sows are kept outside shelters, but within the perimeter fence. According to Moreki and Mphinyane (2011) and Montsho and Moreki (2012) the semi-intensive system is the predominant system of production.

As indicated earlier commercial pig production has not grown significantly since its establishment in the 1970s. While the official statistics office does not provide data on population and pork production indications from Moreki and Mphinyane (2011) and Montsho and Moreki (2012) suggests that the population has fluctuated due to disease outbreaks, while production has remained constant at just above 400 tonnes annually (Division of Non-Ruminants, 2013).

Pork and other by-products are sold in some retails outlets, with some outlets not selling pork because of religious beliefs, for example Muslim owned retail outlets do not sell pork. It is also very difficult to find pork in butcheries as the majority of these do not sell it. According to LEA (2011) the main market for domestic products was chain stores and supermarkets and these collectively represent 83 percent of the market. This is followed by wholesalers and other distributors who sell directly to hospitality industry, as the latter require special cuts which farmers cannot provide. According to Division of Non-Ruminants (2013), pork is mainly consumed in urban centres and this partly explains why the farms are concentrated in urban centres. Per capita consumption of pork is estimated at 0.76 kg per person per year, lower than that of other meats.

Employment

According to Moreki and Mphinyane (2011) the pig industry employs 210 people directly in farms. This figure excludes people employed along the pork value chain such as fodder production, feed processing and the retail level.

Geographical distribution of value chain actors

As indicated in Table 1 the majority (17 percent) of pigs are found in the Gaborone; followed by Francistown (13 percent), Mochudi (13 percent) and Kanye (12.7 percent). The area with the least

population of pigs is Hukuntsi with a total of 35 pigs. A closure look at the table reveals that south western and western parts of the country do not have commercial pigs. Overall the pig population is scattered in cities/towns and big villages, with Gaborone and areas within 100 kilometers (Molepolole, Mochudi, Kanye and Lobatse) having 7,350 (or 58 per cent) of the total pig population.

Table 1: Pig population by type and location 2012/13

Location	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	1673
Gaborone	57	353	343	1087	116	263	2219
Kanye	45	298	386	540	125	230	1624
Lobatse	158	22	154	500	28	41	904
Francistown	17	247	375	247	20	778	1684
Tonota	14	85	106	102	61	223	590
Maun	10	34	79	13	15	75	226
Letlhakane	23	47	16	25	16	32	243
Hukuntsi	1	6	23	3	2	0	35
Total	474	1,997	2,537	4,137	768	2,521	12,728

Source: Division of Non-Ruminant Production, 2013

Domestic control regimes

Commercial piggeries are normally registered as businesses and promoters given lease for the land on which they raise the pigs. There are some regulations and laws that impact on the piggery sector. For example, LEA (2011) sites the regulations on the "Control of Goods, Prices and Other Charges" which requires the pig producers to buy at least 70 percent of their feed requirements locally. This regulation is meant to protect the domestic feed manufacturing from fierce competition from the well-established and efficient South African feed manufacturers and is provided for under the SACU agreement. However, LEA (2011) maintains that the same regulation impact negatively on farmers because they are forced to buy sub-standard feeds locally which adversely affect their productivity.

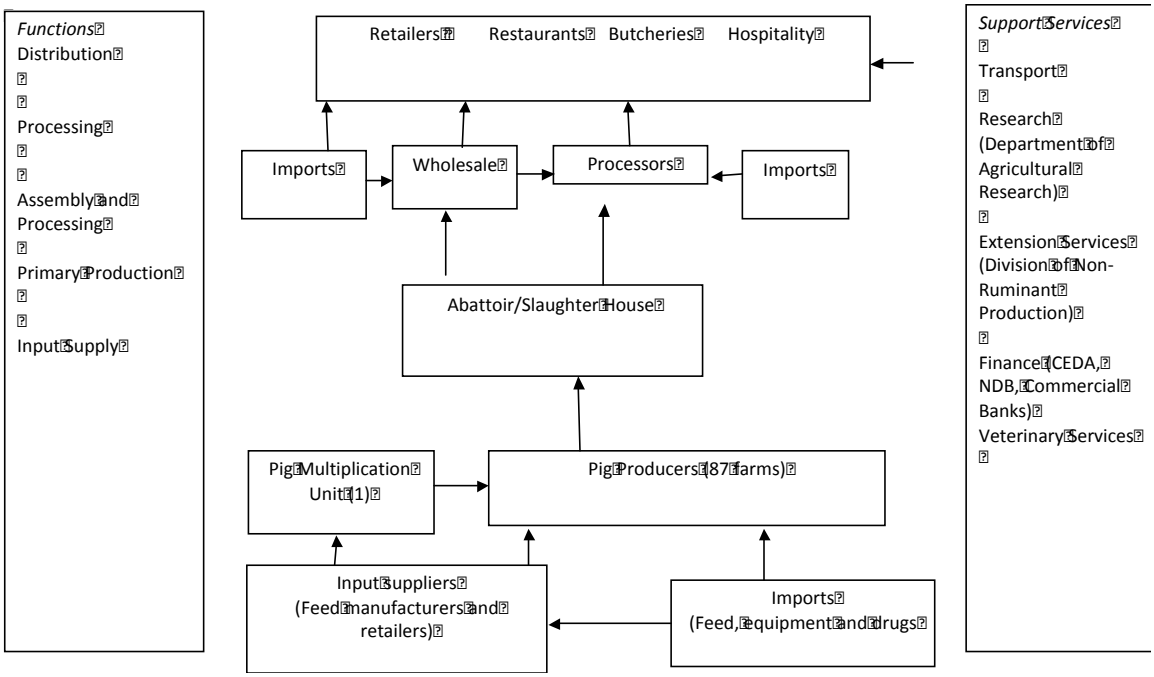
Government policy

There is no specific policy on the piggery sector. The sector operates within the guidelines of the National Policy on Agricultural Development (NPAD) of 1991. The piggery sector has benefited from a number of programmes, although not specifically meant for the 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 piggery 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 projects, including youth projects have benefited from the assistance offered by CEDA. For example, Division of Non-Ruminants (2013) reported eighteen (18) projects to have benefited from CEDA's Young Farmers' Fund. Additional five (5) youth projects benefited from the Culture and Youth Fund, from the Ministry of Youth, Sports and Culture. In addition, as an infant industry the industry is subject to import controls through the Control of Goods, and other Prices Act under the SACU agreement. However, it would appear that this Act has never been applied or rarely applied because domestic supply rarely meets demand to render imposition of import controls.

THE STRUCTURE OF THE PIGGERY VALUE CHAIN IN BOTSWANA

Figure 6 shows the structure of the Botswana pork value chain with all the actors involved including the needed support services.

Figure 6: Pork Value Chain in Botswana



Inputs and their supply

Feed is the most important input in pork production. As a grain deficit country most of the ingredients used for feed formulation are imported, while some are sourced locally. LEA (2010) identified eleven (11) feed suppliers in Botswana, five (5) being manufacturers while the rest were only distributors. Most of the distributors import fully packaged feed, mostly from South Africa. Other inputs in the pig industries include veterinary supplies such as vaccines, drugs and equipment.

Production and processing

Sebele Pig Multiplication Unit: The unit is situated in Sebele in Gaborone and its main role is to breed pigs for sale to local farmers. In 2012 the unit sold 28 breeding pigs to farms, while 67 were culled and sold to the abattoirs. It would appear that the unit does not have enough capacity to demand of all farmers. At present there is no specialised private pig breeder in the country.

Farmers: There are a number of farmers in the country, who differ according to size of their operation and the production system they are using. These farmers are scattered all of the country with high concentration in the southern part, especially Gaborone and the surrounding areas.

Abattoirs/slaughter houses: LEA (2010) reported that they were only two abattoirs were licensed to slaughter pigs in the whole country. One such abattoir was the Meat Industry Training Institute in Lobatse which has then owned and run by the Department of Veterinary Services (The abattoir has now being transferred to Botswana College of Agriculture when it took the training of meat inspectors). The other abattoir was located in Gaborone. As a result of shortage of slaughtering facilities, farmers slaughter on their farms and sell directly to butcheries and

	supermarkets. The available slaughter houses pass their products to the wholesalers and processors
Wholesalers and Processors:	Processors undertake further processing of the pork from the slaughter houses into various products. The processors and wholesalers also import products for eventual sale to retailers and other buyers.

Distribution channels

Retailers:	Retailers source their products from wholesalers and processors for eventual sale to consumers.
Consumers:	Consumers buy pork products from a variety of sources, they can buy fresh meat from butcheries or retailers or buy it as cooked meat in restaurants. Consumers also meet products as cooked meat and other products through their institutions.

Support services

There are a number of support services that are needed for the smooth working of the pork value chain. These activities include finance, especially at primary production stage. The other services are veterinary services, extension on the overall management of the pig enterprise, including marketing and record keeping. The service the pig producers need at primary production is artificial insemination. At all level of the value chain transport services are needed for moving the products from one stage to the next.

Outbound logistics

The outbound logistics in the Botswana pork value chain are currently undeveloped, with pig farmers being forced to slaughter their pigs in the farms and transport them in open trucks to retailers , butcheries and other buyers. This comprises on health and safety of the ultimate consumers as these trucks are normally not refrigerated.

CONSTRAINTS TO VALUE CHAIN UPGRADING

A number of constraints have been identified that hinder the development of the piggery sector and hence the whole pork chain in Botswana. Moreki and Mphinyane (2011); Morekei and Montsho (2012); LEA, (2010) and Division of Non-Ruminants (2013) identified the following as constraints that inhibit value upgrading in the pork value chain at the production and processing level

- Insufficient slaughter facilities
- High feed prices
- Unorganised marketing
- Lack of transport
- Inadequate extension service
- Low quality feeds from local suppliers
- Inadequate supply of breeding stock from Sebele Pig Multiplication Unit
- Weak linkages among various actors in the value chain
- Transboundary diseases

PREVIOUS ATTEMPTS AND VALUE CHAIN DEVELOPMENT

A number of attempts have been made by Government in order to develop the pig industry with limited success. For instance, the Financial Assistance Policy, which was later replaced by Citizen Entrepreneurial Development Agency (CEDA). Although both schemes were not specifically meant for the piggery sector, the sector benefited from these schemes. FAP was a grant subsidy scheme in which promoters were required to contribute a small percentage of initial capital costs to their projects.

Projects owned by women and situated in rural areas received higher grants. CEDA offers subsidised loans to profitable projects in all sectors of the economy. The scheme has specific support to the youth through its Young Farmers Fund and about eight new piggery projects have been funded through the scheme (Division of Non-Ruminant Production).

ISSUES FOR FURTHER INVESTIGATION

Based on the shortcomings of the previous research, the following issues need to be addressed in the field research:

- Employment levels in the industry
- Number of producers, size and their production systems
- Whether importation of live pigs is allowed and if so to what extent is it important
- Cost structure/investment at farm level
- The number of wholesalers/processors and their characteristics
- Number of processors, their equipment and capacity
- Upgrade of the SWOT analysis undertaken by LEA in 2010

Goats Value Chain

OVERVIEW OF THE SECTOR

Production

Livestock production in Botswana is a very important socio-economic activity. The cattle industry is the principal sector with a major contribution to beef export to the EEC market. However cattle ownership is highly skewed with 10% of the population owning 60% of the national herd in 1990 and 40% of the population not owning any cattle (MFDP 1991). The semi-arid climate of the region combined with its low population density provides a great opportunity for livestock production. Also lack of alternative investment opportunities in rural areas has promoted investment in livestock (Chernichovsky et al 1985; MFDP 1991). For smallholder (traditional) farmers more investments are made in the smallstock sector. Over 80% of the smallstock owners, (70% of which own goats) are in the hands of traditional farmers (MoA 1991). Women, who are among the poorest, own more goats than their male counterparts who have more resources and can afford to own cattle. Ownership of goats by the poorer sector of farmers is encouraged by the government through a number of projects/policies and programmes discussed later in this paper.

Since all the traditional farmers live in the communal lands (70% of the total area) most of the goats are found in these areas. Here extensive grazing is practiced and very little controlled grazing is done. About 5.0 million animals (2.6 million cattle, 2.2 million small stock and 0.2 million donkeys) were found in these areas in 1990.

There are two dominant sub-sectors involved in the production of goats namely; the commercial and traditional production system. The commercial sub-sector's production goals are mainly for income generation purposes while the latter's aim is for subsistence purposes with income generated from selling surplus.

The sector is dominated by the poor (mostly women) and is mainly concentrated in the rural areas. Over 80% of all smallholder enterprises are owners of smallstock projects and the majority of which are concentrated in rural areas and are mostly women (MoA, 1991). Technology development and uptake of innovative initiatives aimed at improving performance and mostly led by government is very low leading to the poor performance of the sector. An illustration from the Ministry of Agriculture Smallstock Annual Report of 2009 -10 (below) emphasizes the dire situation that is in existence in the sector.

"A total of 261 goat farmers owning 21,863 goats and 146 sheep farmers with 6,066 sheep were randomly selected from 12 Animal Production districts and the productivity of their flocks was

monitored for birth, mortality and offtake rates. Three districts (Maun, Letlhakane and Kanye) did not carry out this exercise owing to the confusion caused by the cancellation of the inventory exercise that was also supposed to have been undertaken during the year.

During the past financial year (2007/2008) a similar exercise was undertaken but the sample size involved 330 goat farmers with 25,612 goats and 189 with 5,636 sheep. Results from the monitoring of production parameters for the two years are presented in table 2 below for comparison."

Table 2: Smallstock Production Parameters for sampled farmers 2007/2008 through 2009/2010

Parameter	Goats			Sheep		
	2007/2008	2008/2009	2009/10	2007/2008	2008/2009	2009/10
Birth rate	74%	60.7%	42.7%	49%	46.1%	41.3%
Mortality	4.8%	6.2%	6.4%	6.4%	6.1%	4.1%
Offtake	5.4%	5.5%	4.0%	5.1%	5.4%	2.1%

Birth rates for both sheep and goats for the three years are relatively low due to a number of factors such as low sire to dam ratios for some flocks, suspected infertility of some sires, low nutritional plane leading to low ovulation rates and low conception rates.

Mortality rates are within acceptable limits as a result of flocks being subjected to moderate management levels. Sampled farmers are encouraged to follow a minimum level of smallstock management that includes dosing against internal parasites three times in a year and external parasite control as and when necessary.

Offtake rates have remained stable for two years and declined during the current year probably as a result of low birth rates translating into fewer animals being available for sale. The absence of an organized market for sheep and goats could have also contributed to this state of affairs; this is despite the high demand for smallstock meat as exemplified by imports. A robust smallstock marketing strategy needs to be undertaken in consultation with stakeholders to address the acute shortage of sheep and goat meat in the country. It should be noted that this exercise requires involvement of farmers and extension personnel but where smallstock extension staff is non-existent, the response of the farming community might be minimal.

Table 3 below indicates the size and growth of the sector witnessed between year 2010 and 2012 through the number of holdings that were involved and the total number of goats they produced at each particular time. During this period under observation, 99% of the producers were subsistence producers (traditional) while the remainder (1%) was commercial in orientation. While 2010 was the peak production year in goat's numbers (1,937,931) under both sub-sectors, production death rate was so high in the following years reducing the number of goats to 1,769,811 and 1,615,442 respectively.

TABLE 3: Summary of traditional & commercial goats sub-sectors (CSO, 2012)

Type	2010			2011			2012		
	Traditional	Commercial	Total	Traditional	Commercial	Total	Traditional	Commercial	Total
Total Holdings	83,548	655	84,203	82,854	441	83,295	81,655	521	82,176
Total Goats	1,888,748	49,183	1,937,931	1,736,011	33,800	1,769,811	1,615,442	34,173	1,649,615
Total Births	788,074	18,037	806,111	720,481	13,353	733,834	668,970	13,586	682,556
Total Deaths	352,334	7,394	359,728	418,510	7,130	425,640	352,885	8,022	360,907
Total Sales	53,739	4,041	57,780	47,121	2,497	49,618	58,162	1,796	59,958
Total Home Slaughter	66,073	2,343	68,416	62,060	1,810	63,905	61,905	1,713	63,618
Total	14,628	1,551	16,179	10,706	639	11,345	22,598	578	23,176

Type	2010			2011			2012		
	Traditional	Commercial	Total	Traditional	Commercial	Total	Traditional	Commercial	Total
Purchases									
Offtake	105,184	4,833	110,017	98,475	3,668	102,143	97,469	2,981	100,450
Offtake Rate	5.6	9.8	5.7	5.7	10.9	5.8	6.0	8.7	6.1
Birth rate	41.7	36.7	41.6	41.5	39.5	41.5	41.4	39.8	41.4
Death rate	18.7	15.0	18.6	24.1	21.1	24.1	21.8	23.5	21.9

Source CSO (2012)

Table 4 below depicts the total number of holdings selling goats, the total revenue generated in the process as well as the average revenue accruing to each holding and the average selling price per goat. A total of 13,537 sold 58,162 goats generating revenue of P34, 410,852.00 with each holding earning an average of P2, 542.00 in the process at a goat average price of P592.00.

Table 4:Goat Production in Botswana

District	Holding selling goats		Total goats sale		Total revenue	Average holding revenue	Average goats revenue
	number	%	number	%	Pula	Pula	Pula
Southern	1,984	14.7	8,150	14.0	4,954,850	2,497	608
Gaborone	4,614	34.1	17,472	30.0	11,062,450	2,398	633
Central	4,310	31.8	23,125	39.8	12,992,950	3,015	562
Francistown	1,418	10.5	3,966	6.8	2,691,800	1,898	679
Maun	489	3.6	992	1.7	481,040	984	485
Western	722	5.3	4,457	7.7	2,227,745	3,086	500
Total	**13,537**	**100**	**58,162**	**100**	**34,410,852**	**2,542**	**592**

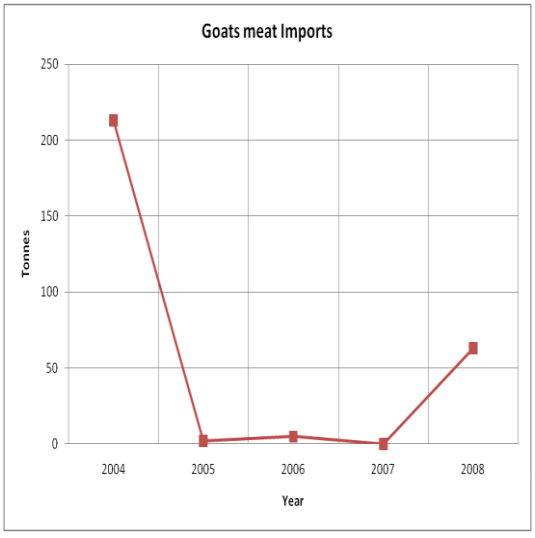
Smallstock producers face a mammoth task of finding buyers who are prepared to offer better prices for their produce. This task is often not an easy one as most of these buyers are bent on buying cheap and selling high. The absence of a facility that buys smallstock by grades, like the Botswana Meat Commission as in cattle, makes marketing of smallstock a cumbersome exercise and this discourages serious investors from investing in the industry (MoA, 2009).

In 2009 an estimated 14, 741 goats and 5, 652 sheep were slaughtered at municipal abattoirs and butcheries compared to 19, 850 goats and 6, 850 sheep the previous year, thus showing a decline of about 26% and 17% in goats and sheep respectively from the previous year. Lack of an organized market could have contributed to this decline, as producers could have disposed their slaughter stock in other outlets where such information could not be easily captured (MoA, 2009).

Imports of smallstock meat for 2009 stood at 234 and 99 tonnes of lamb and mutton. Compared to 2008, imports were 307, 369 and 63 tonnes of lamb, mutton and chevon respectively. In an effort to complement government's efforts of improving the genetic material of the national flock, farmers imported 511 live sheep and 977 live goats as breeding stock during 2009 compared to 705 sheep and 10,646 goats in 2008 (MoA, 2009).

Figure 7 show that imports of goat meat have been fluctuating from a high of 213 tonnes in 2004 to 63 tonnes in 2008 and had almost levelled between 2005 and 2007. The introduction of LIMID in 2007 could account for the shortage of slaughter stock in the country thereby leading to imports as more stock could have been diverted to beneficiaries of the programme. Figure 2 depicts that sheep meat (mostly lamb) imports ranged from 338 to 676 tons during the five year period 2004 to 2008 (MoA, 2009).

Figure 7: Chevon imports (2004:2008)



Employment

Even though data on the overall contribution of the smallstock sector to the national and regional employment figures is not available, the overall contribution of the sector to the socio-economic impact and wellbeing of livelihoods of the rural poor (mostly women) cannot be underestimated. Rural households depend on the smallstock sector as both an income generating source as well as a source of food (meat and milk) and employment

Geographical distribution of value chain actors

Table 5 below depicts regional / district distribution of goats' producers in Botswana from year 2010 to 2012. Data indicates that the Gaborone region has more holdings / producers followed by the central region with the western and Maun being the least. Contrary to MoA reports, they are more male producers (48,465) as compared to their female counterparts (33,190). Generally, the data indicates that the sector is distributed throughout the country.

Table 5: Goat Producers by region

Region	Male	percentage	Female	Percentage	Total
Southern	8,693	17.9	6,050	18.2	14,743
Gaborone	15,588	32.9	8,520	25.7	24,108
Central	11,680	24.1	7,525	22.7	19,205
Francistown	7,701	15.9	7,300	22	15,001
Maun	2,560	5.3	2,128	6.4	4,688
Western	2,243	4.6	1,667	5.0	3,910
Total	**48,465**		**33,190**		**82,176**

Source CSO (2012)

Domestic control regimes

The control of Imports/Exports/In-transit of animals and animal products in Botswana is governed by the Diseases of Animals Act CAP 37:01, Section 6 and other Diseases of Stock Regulations[2] that may be promulgated from time to time. These powers are vested upon the Director of Veterinary Services (DVS). The Act and regulations are meant to prevent the introduction and spread of animal diseases in Botswana to ensure animal and human health. All imports of live animals are centralized in headquarters in Gaborone. Any individual desirous of importing an animal into Botswana is required to lodge an application well in advance of the actual importation with the Permits Office, Ministry of Agriculture.

Government policy

Over the years government has introduced policies and interventions aimed at supporting and promoting the production of small stock through the following;

- To improve rural nutritional and income status through increased productivity of milk and meat, and sales through improved management and genetic potential.
- Assist the marketing of small stock through improving handling and marketing facilities.
- Use projects like Artificial Insemination, ram subsidy (Boer goat was introduced to improve the indigenous goats), Financial Assistance Policy (a grant of up to P 25,000 to start a goat or sheep project is given to a farmer, and women are given priority) and pricing policy as an incentive to promote the small stock sub-sector.
- Through the implementation of service to livestock owners in communal areas programme (SLOCA), provide technical assistance to Botswana Cooperative Union (BCU) responsible for livestock management and marketing. An increase in prices of small stock through BCU, increased animals sent to the official market, the Botswana Meat Commission (BMC) from 334 goats in 1982 to 4127 goats in 1983 and to 41,997 in 1989 (MFDP 1991).
- Build dams and assist syndicates in costs of drilling boreholes with a minimum of P 20,000. This is necessary because there is very little surface water.

[2] (http://www.gaborone.diplo.de/contentblob/3497972/Daten/2199197/DD_Haustiere_BWA.pdF)

- Establishment of 10 trek routes covering a total of 2540 km (MFDP 1991) to assist those farmers who trek their animals to BMC or municipal abattoirs. Each of these routes has watering and kraaling facilities and a kilometer yard to hold sick and weak animals.
- Provide disease control measures like free vaccination from common diseases, cordon fences in production areas and the establishment of six main Livestock Advisory Centres
- (LACs) and 25 subsidiaries.

In 2007 Government introduced the Livestock Management and Infrastructure Development (LIMID) programme through two phases. LIMID Phase I comprised seven packages with the three (3) packages focused on resource poor households (i.e., small stock, guinea fowl and Tswana chickens) and the remainder was for infrastructure development which included animal husbandry and fodder support, borehole/well equipping, borehole drilling and reticulation and borehole/well purchase, as well as, cooperative poultry abattoirs. The objectives of LIMID II are to; Promote food security through improved productivity of cattle, small stock and Tswana chickens; Improve livestock management; Improve range resource utilization and conservation; Eradicate poverty; and Provide infrastructure for safe and hygienic processing of poultry (meat).

THE STRUCTURE OF THE GOAT VALUE CHAIN IN BOTSWANA

In brief, the local smallstock value chain comprises input suppliers who are both public and private sector players, the primary producer and the outlet / market for the produce. Inputs are supplied in the form of vaccines (from LAC), feed from suppliers such as Agrivet, feed centre etc, breeding stock (mainly stud bucks) from stud producers and capacity building exercises from the public sector (CICE). The producer sells his products to local butcheries, certified local abattoirs, speculators and the informal market. Currently there is little or no processing being done on chevon hence butcheries and abattoirs sell mainly chevon cuts to the retailers.

The SADC PRINT Project (promotion of regional integration in the livestock sector) gave birth to the Value Addition Information Management System (VAIMS). VAIMS is an information and data management system that is designed to generically collect, store, manage, and analyze information on livestock marketing chains in smallholder settings. The motivation for VAIMS comes from the need, across a range of stakeholders, for better information on smallholder livestock systems that predominate in many developing countries. In such settings, livestock often represent an important pathway out of poverty for smallholders. Indeed, much of the world's poor in rural and urban areas alike maintain livestock for a multiplicity of uses, including income, asset and risk diversification, and social and cultural reasons (Bailey et al., 1999; Randolph et al., 2007). Furthermore, given the numerous actors involved in the livestock marketing chain, interventions that target livestock systems can have powerful multiplier effects on the sector itself, related sectors (e.g., feed), and ancillary services and employment-generating activities.

As part of the VAIMS undertaking, a regional value chain assessment for smallstock was undertaken in the Kgalagadi South (Tsabong area). The study focus was not to develop a comprehensive smallstock value chain mapping but to get a synoptic view of the marketing challenges faced by smallstock producers in the area.

The survey focused on four key areas namely; producer analysis, trader analysis, processor analysis and retailer analysis. The idea was to establish in general all the listed players their general function and derive challenges they each faced.

CONSTRAINTS TO VALUE CHAIN UPGRADING

The Constraints to upgrading can be summed up into the following;

- High input costs for meat
- High energy costs
- Consumer demand (unwilling to pay high prices)
- High variability in prices

- High variability in sales prices
- Behaviour of livestock traders
- Access to infrastructure
- Poor support from extension services
- Low access to credit
- Consumer demand (quantity)
- Limited knowledge of new market opportunities
- Low sales prices for products
- Government policy
- Low Storage capacity
- Poor access to markets
- Animal diseases
- High transport costs
- Poor knowledge of sales opportunities
- Poor knowledge of market prices
- Behaviour of slaughter operators
- Low productivity of animals
- Distribution arrangements

PREVIOUS ATTEMPTS AND VALUE CHAIN DEVELOPMENT

National Development Plan 9 (2003/04-2008/09) identified the major constraints to smallstock production being management related, mostly characterized by high mortalities caused by disease and external parasites. To improve the situation, NDP9 proposed to pursue the following specific strategies:

- Train farmers on smallstock management
- Encourage smallstock breeder's societies to improve availability of breeding stock
- To promote establishment of smallstock handling and marketing facilities
- On issues related to livestock marketing, NDP9 main objective was to help farmers market their products better and take advantage of the opportunities offered by globalization through pursuing the following strategies:
- Provide marketing infrastructure services such as watering facilities, kraals and crushes and loading ramps
- Compile and analyze data on livestock marketing in order to assist farmers to benefit from liberalized markets
- Intensify livestock marketing education
- Encourage private sector participation in transportation of slaughter animals to markets

ISSUES FOR FURTHER INVESTIGATION

The productivity of cattle and smallstock failed to reach the target levels set for NDP 9, as measured by calving and mortality levels, off-take and milk production. However, some progress was made in increasing calving percentages of both traditional and commercial farms, and reducing mortality in traditional farms compared to NDP 8.

Livestock production was hampered by persistent outbreaks of FMD and other trans-boundary diseases, such as Newcastle Disease. Recurring drought also caused high livestock mortality. Inadequate slaughter and packaging facilities for poultry were a major constraint for small scale producers. Commercialization of the livestock industry remains a challenge, with the majority of farmers failing to adopt new technologies to support new initiatives, such as weaner production and stud breeding.

During NDP 10, government developed the following strategies to spearhead agricultural development and counter problems experienced during the implementation of NDP9:

- Pest and disease management strategy

- Commercialization based competitive advantage
- Institutional capacity building
- Conservation of agricultural resources
- Support to household food security and SMME through LIMID program

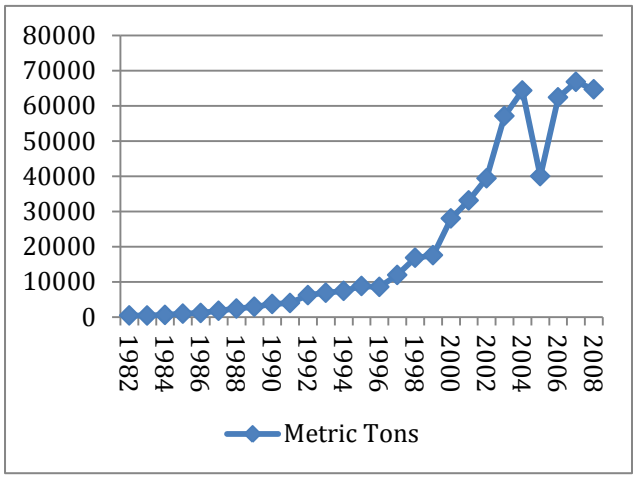
Poultry Value Chain

Overview of the sector

Production

The development and commercialization of the Botswana poultry industry started in 1975 with the development of a rural project known as "Thuo ya Dikoko". This was aimed in large measure at egg production rather than broilers. It started in several regional centres, namely Gaborone, Lobatse, Mahalapye and Maun, and poultry extension officers were sent to these centres to provide technical expertise. A religious group, the Mennonites, financed the project, which only lasted for 5 years. Under this project the Ministry of Agriculture (MoA) was to buy day old pullets and sell them at eight weeks of age to the farmers. By selling pullets at eight weeks, the project was an attempt by the MoA to introduce poultry at relatively low risk to the small-scale farmer. It was believed that the development of small-scale poultry enterprises could greatly reduce imports and also increase the incomes of poorer families who did not own cattle (Grynberg & Motswapong, 2012).

Figure 8. Poultry Meat Production in Botswana (Source: Grynberg *et al* (2012)



Over the years, the poultry industry has grown steadily from a production of 10000 metric tons in the early 1980's to over 60000 metric tons in the late 2000.

The poultry industry has two distinct sub-sectors namely; the traditional / family poultry production and commercial poultry production systems. Moreki (2006) describes a "family poultry" production system as one in which production centres on the use of unimproved genetic stock usually raised in small numbers of up to 15 and fed on harvest waste and inferior grains. Comparatively, the commercial sector operates with exotic breeds kept in a control environment (poultry houses), fed high quality feed aimed at enhancing and shortening the production cycle to ensure that the chicken are ready for slaughter within 6 weeks.

The national poultry meat demand for Botswana is estimated to be 60 000 tons per year. Poultry meat is produced by small-scale, medium scale and large-scale farmers. As a result, product quality is variable due to differences in hygiene standards adopted in the poultry abattoirs. According to Groom (1990), some factors that affect meat quality include temperature, ventilation rate and nutrition. Presently, the Department of Veterinary Services has licensed 28 poultry abattoirs and these receive technical support from government meat inspectors. (Grynberg *et al*, 2012).

The Central Statistics Office Agricultural report of 2012 estimates that they are 1, 119, 734 chickens under the traditional system owned by 91, 301 farmers / holding at an average of 12 chickens per holding. The commercial sector can be further categorized into small-scale (up to 20 000 birds), medium-scale (20 001 to 50 000 birds) and large-scale (>50 000 birds). Botswana is nearly self-sufficient in chicken meat and table eggs. However, further processed chicken meat (FPC), turkey, duck, quail, guinea fowl and pheasants which are not produced in sufficient amounts in the country are imported from neighbouring countries, notably the Republic of South Africa (Moreki, 2010).

Under both production systems, there is limited information depicting growth. Most of the literature available points to a sector that has reached import substitution levels especially with regards to exotic birds production but very silent on what are the future prospects for growth i.e. there is no strategy going forward in as far as growth is concerned.

The development of an import substituting poultry industry in Botswana which gave rise to the country being almost self-sufficient in poultry production has led to structural changes in the poultry production and marketing strategies being employed which are driven by the growing demands of poultry products by the urban and peri-urban markets. The retail and wholesale market has flourished resulting in poultry firms (mostly within closer proximity to urban centres) competing in value adding techniques and in quality of the production. There is also within the poultry market a growing need for Halal poultry products especially among the growing Muslim religious belief. Traditional poultry production system is mostly sold in informal markets to individuals. Other producers sell directly to slaughter slabs such as Senn Foods where it is processed and packaged before supplying high end markets (retailers & wholesalers).

Employment

The poultry industry is a significant source of employment for various skill levels. While not a labour-intensive industry as such, given the capital investments required, it is a labour absorbing industry – with increased production requiring higher levels of employment. According to Grynberg *et al*, the poultry industry employs about 2 350 people at various levels along the value chain i.e. farms, slaughter slabs, transporters, feed suppliers, etc.

Geographical distribution of value chain actors

According to Moreki (2006), family poultry production systems are popular in rural areas as components of small farms or as income generating and food source for the majority of the rural poor. They are distributed throughout the country but mostly found near urban and peri-urban centres of Gaborone, central and Francistown region as illustrated in Table 6.

Table 6: Traditional Poultry Distribution (CSO, 2012)

Region	Total Holdings	Total Chickens	Average Chickens / Holding
Southern	15,588	214,127	14
Gaborone	28,929	343,327	12
Central	21,492	268,412	12
Francistown	16,561	111,136	13
Maun	5,056	54,285	11
Western	3,675	29,850	8
Total	91,301	1,119,734	12

Data on the distribution of commercial poultry holdings was not available but most of them are concentrated near urban centres where inputs are readily available and the demand is high. Exotic birds are seen as substitutes to traditional poultry to most urban dwellers. (Bagopi et al, 2013).

Domestic control regimes

A person entering Botswana is only allowed to bring in 25kg of poultry products per entry. Importing live birds and day old broiler chicks is banned. The importation of fertilized eggs (to produce broiler day old chicks) into Botswana is restricted and is expected to be completely banned during 2013-2014 (Grynberg et al, 2012).

Botswana also has a trade restriction on feed importation. Broiler producers have to source at least 70 per cent of their feed locally. If there is a shortage of domestic supply to fulfil the 70% and the producer needs to import, it will need to obtain an import permit.

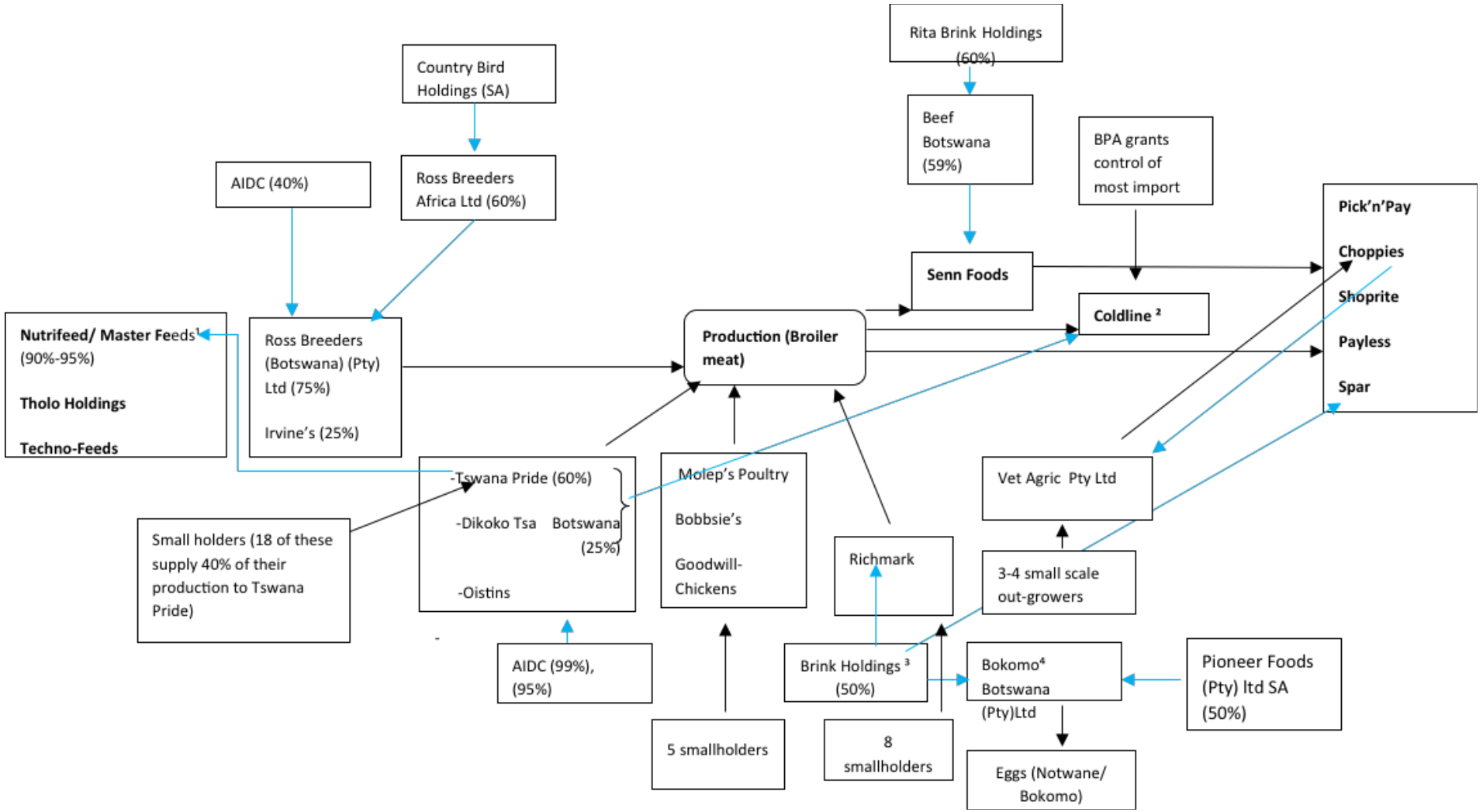
Government policy

By the late 1970s and early 1980s, a new more commercial approach to the development of poultry production came from government. Three instruments of government policy have been largely responsible for the successful development of an import substituting poultry industry in Botswana since 1980. The first is the development of a government controlled marketing channel allowing Batswana access to the primary poultry market. The second policy was the Financial Assistance Policy; and the third, and arguably the most powerful and enduring instrument, has been the use of trade policy through quantitative import restrictions on the import of eggs and poultry meat into the country. In many ways, the history of the development of the poultry sector in Botswana is a microcosm of African agriculture in the post-independence era. A policy of import substitution funded with generous assistance to local producers and entrepreneurs, along with state sponsored marketing channels, was a common hallmark of early post-colonial African agriculture. As was often the case, these policies of government marketing channels and support for small scale local producers collapsed and marketing became dominated by large private sector firms with little small scale indigenous production (Grynberg et al, 2010).

THE STRUCTURE OF THE POULTRY VALUE CHAIN IN BOTSWANA

The poultry meat industry value-chain in Botswana is illustrated on the following page

Figure 9: Poultry Value Chain in Botswana



Producers

In 2009 there were, at least nominally, 10 large producers of poultry in Botswana who are members of the BPA these include the Goodwill Chicken, Tswana Pride, Dikoko Tsa Botswana, Molep Poultry, Bobbsie's Chicken, Oistins, Richmark Poultry, Medina Chickens, Chicken Zone, and Motherwell Chickens (Grynberg *et al*, 2012).

The estimates of concentration in the broiler industry are presented below:

Table 7: Concentration in the Poultry Industry

Company	Weekly Broiler Production -Jan 2009(market share)
Tswana Pride	120,000 (27%)
Dikoko Tsa Botswana/Oistins	60,000 (13%)
Bobbsie/Goodwill	75,000(17%)
Richmark	50,000(12.5%)
Moleps	50,000 (12.5%)
Total	450,000

Source: Industry estimates.

The industry also suggests that in Botswana the minimum efficient scale in the broiler industry is achieved when a facility is producing between 30,000-50,000 units per week though much larger firms exist in South Africa. There are a large number of small and contract growers who are well below this scale level (Grynberg *et al*, 2012).

There are however a large number of small scale producers who supply the large firms on a contract basis as well providing supply on government tender. In the region of Gaborone many of these small scale producers are linked to Tswana Pride which includes in 2010 some 18 farmers which, according to the company, employed some 200 workers and are responsible for 40% of Tswana Pride annual production.

Domestic Market Structure

Large producers supply retailers and wholesalers. These small scale producers have no direct access to supermarkets and many of their sales are to small village retail outlets and individuals. An important market outlet for some of these relatively small producers is on tender to government institution such as schools and the Botswana Defense Force. (Grynberg *et al*, 2012).

Input Supplies

Inputs into the poultry industry such as Day old Chicks (DoC) are distributed between two firms Irvines and Ross Breeders. Richmark, which brought legal action against the government's prohibition on imports of DoCs in 2009, is permitted to import its own DoC directly. According to the government reports Irvines controls approximately one quarter of the local DoC market with the remainder controlled by Ross Breeders (Grynberg *et al*, 2012).

The Ministry of Agriculture suggests that the company which supplies some 90- 95% of poultry feed for the industry; Nutri-feed is also owned by the AIDC group. There are two other small suppliers including Techno Feeds and Tholo Holdings. A new firm Opti-Feed has also reportedly entered the industry. Agrivet acts, in effect, as a retail distributor of the production of Nutri-feed. Current levels of commercial maize production are such that this proportion of local supply of maize cannot come from domestic production of maize and therefore the ratio, while nominally mandatory is aspiration in nature rather than binding when it comes to maize farmers. The total procurement of maize of the Botswana Agricultural Marketing Board (BAMB), which is the only significant buyer, in 2009, was approximately 4,500 tonnes almost all of which went largely to Bolux and Bokomo and were used by these firms in the maize milling sector to produce maize meal and not in the production of animal feed. As there is very little local maize for animal feed the 70/30 rule provides a legally assured market for Nutri-feed products and (Grynberg *et al*, 2012).

CONSTRAINTS TO VALUE CHAIN UPGRADING

- Poor quality raw materials used in the manufacture of feeds. In most cases, raw materials used in feed manufacturing are not screened which allows for adulteration of some basic raw materials for feed formulation. Adejoro (1991) states that frequently moisture content, aflatoxin level and other microbial contaminants of raw materials are never evaluated prior to purchase and use resulting in livestock, especially poultry suffering from metabolic disorders most of which are a result of poorly processed raw materials;
- Supply of poor quality chicks and complete feeds is the major constraint to maximum performance (PAR 2000). Reddy (1991) stresses that there is no strict and compulsory quality control measures either in the hatchery or on feed millers;
- High feed costs (Kelebemang 2008);
- Lack of close cooperation between government authorities and farmers in providing veterinary care, marketing facilities and in obtaining information on feed from farmers who could possibly contribute towards improvement in future programmes;
- Delayed allocation of land for poultry businesses by Land Boards (PAR 2000);
- Lack of slaughtering facilities, especially for small-scale poultry producers (PAR 2000, 2001);
- Unorganized marketing (PAR 2000);
- Lack of serviced land, e.g., electricity, water and telephones (PAR 2000, 2001);
- Importation of strains of birds without any strict legislative control to outbreaks of diseases that either were not known or did not exist before;
- Inadequacy of breeding stock, thus leading to imports of birds and hatching eggs;
- Halaal requirement by the majority of retailers denies smalls-scale producers access to the market as they do not have money to pay Muslim slaughters; and
- Inadequate extension service due to shortage of transport resources (PAR 2000).

PREVIOUS ATTEMPTS AND VALUE CHAIN DEVELOPMENT

Most of the developments attempts at value chain developments were in the form of policies and international trade related interventions geared towards national poultry self sufficiency

"Thuo Ya Dikoko" project of 1975 funded by donors (Mennonites Religious Group) which lasted for 5 years aim was to promote household food security through encouraging and promoting keeping of poultry by farmers as livelihood.

1. Financial Assistance Policy (FAP) – encouraged the establishment of SMME through financial support by government. FAP which started in 1983 promoted investment in the poultry sector which was viewed as a "women-led" industry by offering more grants to women than men.
2. Government used the SACU provision of "protection of infant industry act" to put a quota restriction on the importation of poultry inputs and products. Procurement of inputs which are a limiting factor in the investment in the poultry sector as a result of their high cost locally still stands at 70% local procurement and 30% from outside. Poultry meat which is by far the most expensive within the SADC has import restrictions; consumers are only allowed 25kg of meat.
3. Establishment of the Botswana Poultry Association to lobby government on anti-competitive tendencies in the industry and provide capacity building to registered members
4. Citizen Entrepreneurial Development Agency (CEDA) – A government initiative established to provide financial and technical assistance to citizens in various business investment portfolios. Over the years, CEDA has invested millions of Pula in agribusiness ventures majority of them in the poultry industry.

ISSUES FOR FURTHER INVESTIGATION

With government succeeding in ensuring and attaining national poultry self-sufficiency, the onus left was to make the poultry industry competitive and also ensuring the survival of SMME. All the policies and other trade restrictions made have failed to protect SMMEs leading to the erosion of fair trade.

- The poultry industry is oligopolistic hence anti-competitive (few big players involved in different facets along the value chain)
- Inhibitive trade restrictions making it difficult for investors to source cheap inputs from outside the country
- Lack of clear and defined governance within the sector. Rules of trade within the VC are not clearly defined and monitored
- Technical assistance and capacity building exercises provided to new entrants is lacking. At the moment, "would be" farmers who own land and have funds to hire a consultant to write-up a business plan are assisted without having satisfactorily indicated deep knowledge on the industry they intend investing in. CEDA is not capacitated enough to determine whether the project proponent is competent in the field or not hence many poultry investment initiatives fail.

Dairy Value Chain in Botswana

Overview of the Dairy sector

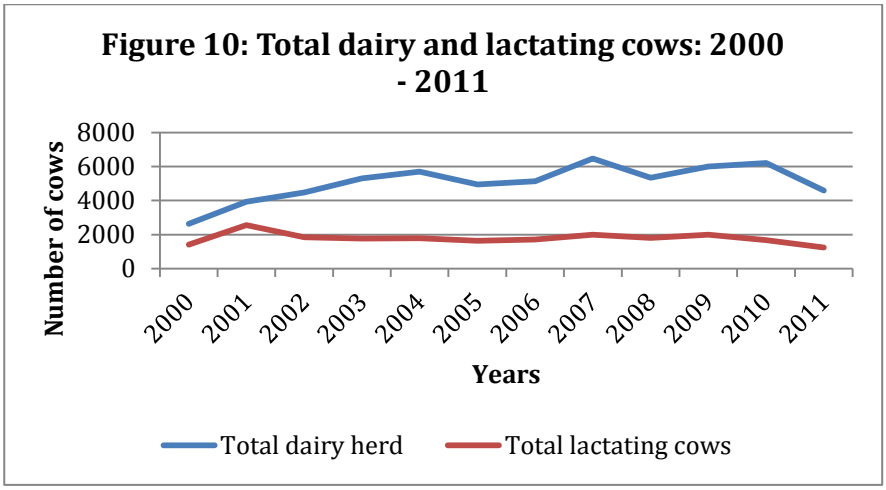
PRODUCTION

The dairy industry in Botswana started before independence in 1966 and at that time to up 1974, the focus was on the production of cream, the bulk of which was sold to South African Creameries. A levy of five cents per pound of cream exported was charged and this was used to establish the Dairy Industry Special Fund (DISF). The DISF was used to fund dairy projects in order to develop the industry. To date the country does not export any dairy product, instead it relies heavily on the importation of raw milk, fresh milk and other dairy products to meet local demand. The industry is still at an infant stage with production and productivity levels well below targets set by the various National Development Plans (NDPs).

Milk production in Botswana is from two subsectors, the commercial sector and the semi-subsistence sectors. In the semi subsistence sector animals are kept mainly for beef production, but are milked for home consumption. There is normally excess milk during the wet season when pastures are good as the animals rely on natural pastures for their feed requirements. The excess milk is normally processed into sour milk and sold at urban centres as fresh milk cannot reach the market in good condition because of the distances involved and lack of cooling equipment.

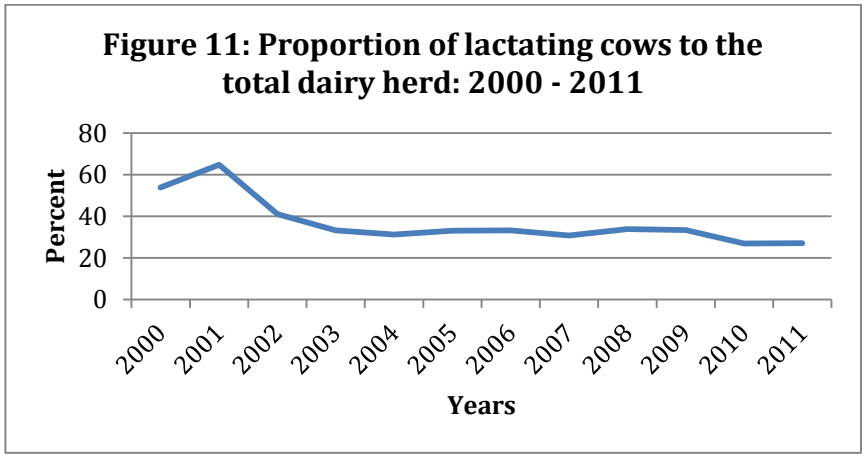
In the commercial sector, animals are kept primarily for milk production, purely for sale. Under the commercial system of production, there are three production systems: intensive, where animals are zero grazed; semi-intensive where animals depend in part on natural grazing and purchased feeds; and the extensive system where the animals depend on natural grazing for most of their feed requirements. The production systems can also be classified according to scale. The small scale sector comprising of farms owing up to 50 dairy animals; medium scale are farms owning more than 50 dairy animals, but less than 100 and the large scale producers are those owning more than 100 dairy animals.

The dairy industry in Botswana is still at an infant stage and as such the country relies heavily on imports to meet local demand for fresh milk and other dairy products. Figure 10 shows the number of dairy cattle from 2000 to 2011. As shown in the figure, the number of dairy cattle increased from 2629 in 2000 to 4591 in 2011. The number has fluctuated between 5000 and 6000 for most of the period under consideration (2002-2010) and then fell below 5000 in 2011. The number of lactating cows somewhat remained stagnant at just below 2000 and fell to almost 1000 in 2011. The figure shows a declining trend in both the total herd and the number of lactating cows from 2010 onwards.



Source: Dairy Unit, Annual Reports (various)

As indicated in Figure 11, the number of lactating cows as a proportion of total dairy herd has drastically decreased from 64 percent in 2001 to 28 percent in 2011. This is well below the recommended proportion of 80 percent. This means that the Botswana national dairy herd is made up of cattle which are unproductive in terms of milk production. This impacts negatively on milk production and, thereby, on the profitability of the dairy enterprises.



Source: Dairy Unit, Annual Reports (various)

Botswana depends on imports to meet her domestic requirements of both raw milk and other processed dairy products, particularly from South Africa. For instance, data from the Ministry of Agriculture, Department of Animal Health and Production indicates that in 2011 local milk production was 3.1 million litres a fall of 60.8 percent from the previous year. This drastic fall according to the Ministry was due to: the outbreak of foot and mouth disease (FMD) and the drought. Imports for fresh raw milk were 61.9 million litres, representing over 95 percent of domestic requirements. Data from the Dairy Unit indicates that annual milk production has on average been 6 million litres between, 2000 and 2011 ranging from 3 million litres in 2000 to a high of 8.3 in 2009. This production falls short of local demand for fresh milk and the country has to depend on importation of liquid fresh milk and other dairy products, especially from South Africa.

EMPLOYMENT

Data on employment in the dairy sector is not readily available. The sector directly employs people at the farm level and at the processing level. LEA (2011) indicated that of the 67 dairy farms they studied, the farms employed a total of 354 employees mostly expatriates from neighbouring Zimbabwe. They attributed this to the fact that Batswana were not eager to work on labour intensive farms where they are required to stay there. The employment figures above, suggests that a farm employs on average 5 people. Given that the number of dairy farms in 2012 was 87, the total number of employees are estimated to have been around 435 people. The dairy industry also employs people directly in the processing of milk, although no data is readily available as to how many people are employed in the processing of milk. The dairy industry indirectly employs labour in the both fodder production farms and feed processing industries including feed retailing. It is therefore safe to conclude that the sector employs a significant number of people in the farms, fodder production and the processing industry.

GEOGRAPHICAL DISTRIBUTION OF VALUE CHAIN ACTORS

Table 8 shows the total number of dairy cattle, number of farms and milk production by location. As indicated in the table the majority of farms are found in the southern (Southern, South east, Kweneng and Kgatleng) part of the country, with a total of 3255 dairy cattle, representing 71 percent of the national dairy herd and 60 farms, representing 69 percent of total farms and producing 83 percent of the total milk production for 2012. Lobatse alone in the Southern region, holds 2,061 dairy cattle, which represents almost half (48 percent) of the total national dairy herd.

Table 8: Geographical distribution of dairy farms and total milk production 2012

District	Village/Town	Total herd	No. of farms	Total production (litres per annum)
Southern	Good Hope	329		
	Kanye	105		
	Jwaneng	194		
	Total	*628*	*20*	*668,049*
South East	Lobatse	2,061		
	Gaborone	159		
	Total	*2,220*	*18*	*1,771,828*
Kweneng	Molepolole	*215*	*9*	*156,643*
Kgatleng	Mochudi	*192*	*13*	*110,000*
Central	Palapye	200		
	Serowe	268		
	Mahalapye	184		
	Tutume	176		
	Total	*828*	*16*	*392,273*
Ngami	Maun	*157*	*3*	*42,541*
North	Francistown	154		
	Selibe-Phikwe	197		
	Total	*351*	*8*	*122,160*
Total		**4,591**	**87**	**3,263,494**

Source: Dairy Unit, Annual Reports (various)

There are a number of dairy processors concentrated in Gaborone, and Francistown, the largest population centres. These processors use local raw milk as their input to process it into fresh milk, UHT milk, and cheese for the local market. As a result of low quantities produced locally, the processors import raw milk from South Africa.

DOMESTIC CONTROL REGIMES

Similar to other grocery items there are no price controls for fresh milk and dairy products and prices differ depending on location as shown in Table 9.

Table 9: Monthly average prices for milk and cheese in different locations – May 2014

Location	Fresh Milk (P/Litre)	Cheese Gouda (P/Kg)
Gaborone	14.42	80.28
Francistown	13.65	-
Tsabong	-	-
Serowe	13.58	84.62
Ghanzi	13.70	90.83
Kanye	-	-
Molepolole	18.95	54.95
Chobe	18.20	-
Maun	13.95	99.95
Kang	-	-

Source: Department of Agricultural Business Promotion, 2014.

In terms of licensing a producer does not have to register his/her farm unless if he/she wishes to access financial help from both public and private credit institutions in which he/she will be required to have registered the farm as a business. Dairy farmers are also required to apply for the land they wish to establish the dairy businesses on from the Land Boards. As a member of the World Trade Organisations and World Organisation of Animal Health (OIE), Botswana is required to adhere to SPS standards. For the dairy sector the SPS issues are those dealing the FMD and other trans-boundary diseases and the country has to close its borders if there is reported FMD outbreak within the country or outside its borders.

GOVERNMENT POLICY

This is no specific policy dealing with the dairy sector. The dairy sector is guided by the National Policy on Agricultural Development (NPAD) of 1991. The sections of the policy which are of specific reference to the dairy sector are those regarding pricing. The NPAD states that pricing of imported products must be based on import parity prices, while for export products their prices should be based on export parity prices. This means that the prices of the imported dairy products must be based on import parity prices. Imports mainly originate from South Africa. The other policy that affects the dairy sector is the Control of Goods and Other Prices Act which applicable under the Southern African Customs Union (SACU) agreement. Under the SACU agreement member states are allowed to offer some protection to their infant industries. The dairy sector, especially the feed manufacturers have also benefited from the regulation which requires farmers to buy at least 70 percent of their feed requirements from local manufacturers.

The Structure of the Dairy Value chain in Botswana

Figure 12 presents a value chain map for the Botswana dairy sector. The figure does not include the amount of milk flowing through various channels. There are a number of actors in the Botswana dairy value chain and each one of them is discussed below.

Figure 12: Dairy Value chain in Botswana

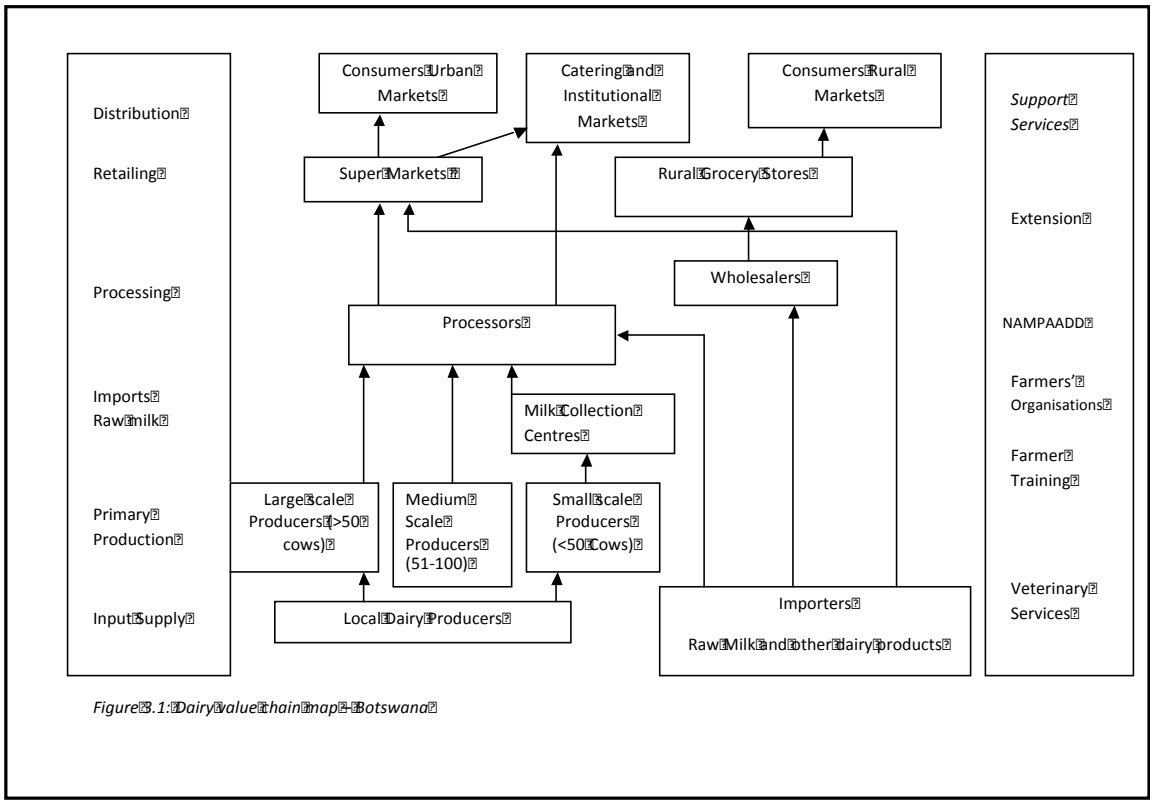


Figure 3.1: Dairy value chain map – Botswana

INPUTS AND THEIR SUPPLY

The input suppliers include; feed processors, suppliers of milk equipment and utensils as well as the suppliers of veterinary drugs and these inputs are mainly sourced from imports. There are limited numbers of feed processors, with one large processor located in Pilane, outside Gaborone. Most feed suppliers sourced their feeds in processed form, mainly from South Africa. There are also limited numbers of suppliers of dairy equipment in the country and the equipment is sourced from South Africa. The dairy animals are also imported, because there is shortage in the country. The other important input supplier in the dairy value chain is Ramatlabama Artificial Insemination (AI) Centre. The centre supplies semen of foreign bulls, including dairy bulls at a reasonable cost to the farmers.

PRODUCTION AND PROCESSING

Producers: The dairy value chain is made up of a number of small, medium and large scale producers. Most farms are concentrated in the southern part of the country, with Lobatse area having most farmers. Farmers can be divided into three categories, the small scale farmers who own a herd of less than 50 cows, and the medium scale farms who keep between 51 and 100 dairy animals. The other group of farmers are large scale, those who own a herd of 100 cows or more. As indicated earlier, productivity in these farms is quite low with low milk yield per cow per annum and low proportion of milking cows to dry cows.

The dairy farms in Botswana can also be divided according to the production systems being followed; the extensive and semi-intensive production systems. Under the extensive production system, animals depend on natural grazing for their feed requirements, with little or no supplementation. Milk production is usually seasonal, with high milk production occurring during the wet season when forage is good in both availability and quality. In the semi-intensive systems, dry animals are normally let to graze and the milking ones are normally fed some supplements and high protein feed in order to boost their milk production. The last production system is the intensive system which is normally practised by large scale farmers. This system involves total zero grazing of all the animals.

Milk collection centres: The government has constructed two milk collection centres, one in Pitsane (South eastern) and the other in Serowe (central). Lack of market has been cited as one of the main reasons why dairy farms collapse. These milk collection centres are a result of government initiatives to provide market for dairy producers in the country. The milk collection centres are supposed to buy milk from farmers and process the milk into fresh milk and other by-products for resale to wholesalers and retail market. The idea behind the construction of these centres is that farmers themselves should run them in the form of cooperatives. However, it appears that farmers are unable to operate these facilities successfully and the oldest plant, in Pitsane is currently not operating. These plants are normally not fully utilised as farmers are unable to supply them with enough raw milk.

Processors: There are currently five large milk processing plants namely; Sally Dairy, Delta Dairies, Parmalat, Mountain Foods and Clover Botswana. Four of these are located in Gaborone and one in Lobatse. In 2010, the four major dairy processing plants imported a total of 38 million litres of raw fresh milk from the Republic of South Africa to fulfil the 48 million litres of milk required by consumers that year. This accounts to over 100 000 litres of milk coming into

Botswana every day. Thus, the local industry is able to supply only 17% of the total milk required, while 83% of raw milk is imported. The UHT plants in Gaborone have a capacity to process 60 million litres of milk per month.

DISTRIBUTION CHANNELS

Retailers: Milk and other dairy products are sold mainly through two formal channels: the super markets and grocery stores. Supermarkets markets mainly supply urban consumers and the majority of these supermarkets have their headquarters in South Africa where they source their milk and dairy products. The rural markets are supplied by grocery stores and other small retail outlets that source their supplies mainly through wholesalers.

Consumers: Consumers can be divided into three categories: the urban consumers who derive their milk and dairy products supply mainly from supermarkets. This group of consumers are situated in urban villages, towns and cities throughout the country. There are rural consumers, who derive their milk through grocery stores scattered throughout the country. In addition, a portion of rural dwellers are found in the cattle posts area (not included in figure 3.1) and consume milk from the beef herd. The milk produced through this channel does not enter into the formal market and is mainly used for home consumption. Occasionally, milk is be processed into sour milk (madila) and sold to urban centres.

Restaurants: Restaurants use milk and dairy products in food preparations which they sell to their customers.

Institutional buyers: The other group of consumers are catering and institutional buyers. These include hotels, restaurants, schools, hospitals and so on. This group mainly buy bulk fresh milk and other dairy products.

SUPPORT SERVICES

Support services to the dairy value chain include infrastructural services such as electricity, water, roads and telecommunication services. These services are provided by parastatal organizations such as Botswana Power Corporation, Water Utilities and Botswana Telecommunications Corporation. Provision of infrastructure in farming areas is generally poor and the dairy sector is impacted negatively more than any other sector as it requires electricity and fresh water for its operation. The majority of farms are not connected to the national electricity grid and the water pipeline. Most roads to the farms are bad making it difficult to transport milk in specialised refrigerated trucks. Farms resort to transporting their milk in open trucks using steel cans. The dairy industry also requires extension advice and this service mainly provided by government departments such as the Dairy Unit and ISPAADD, both in the Ministry of Agriculture. The other service providers include financial institutions who offer credit to dairy farmers such as Citizen Entrepreneurial Development Agency (CEDA), National Development Bank (NDB) and commercial banks. In addition there are other service providers such as Botswana College of Agriculture (BCA) and Local Enterprise Authority (LEA) who provide both technical and management training to current and prospective dairy farmers. In addition, government set the policy environment in which the dairy sector operates and provides extension advice to the dairy sub-sector.

There are limited formal value chains which link farmers with retailers or processing firms. This is so partly because there is low volume of milk supply domestically and lack of collective bargaining action among producers. The many form of milking marketing from farmers is thus through spot markets and this leads to a lot of waste as farmers are sometimes forced to process their fresh milk into sour milk which fetches a lower price.

OUTBOUND LOGISTICS

Processors do not find it viable to collect milk from farms because of small quantities from scattered farms. They instead prefer to source raw milk form imports as the milk comes in bulk, hence cheaper to transport. On the other hand farmers complain of low prices being offered by processors. Farmers who have processing plants prefer to sell directly to retailers. The outbound logistics presents a number of challenges for dairy farmers. Milk is a highly perishable product and must reach the market quickly as possible before it deteriorates and hence lose value. In order for this to happen transportation infrastructure must be well developed and trucks transporting milk must be refrigerated. It would appear that owing to the size of the dairy farms it is not financially viable to invest in refrigerated trucks and poor roads prevent prospective transporters from offering this service.

Constraints to value chain upgrading

The dairy industry in Botswana is besieged by a number of technical, economic and institutional problems. Some of these factors that have adversely affected the expansion and intensification of the dairy industry include: (LEA, 2011) and Ministry of Agriculture (2012).

Input suppliers:

- Shortage of feed formulation raw materials

Producer and processing level

- High costs of feed
- Shortage of land for expansion especially for fodder production
- Lack of expertise on dairy farming, leading to poor management
- Inadequate water supply in the farms
- Low quality local raw materials such as raw milk
- Unavailability of good animal feed, both in quantity and quality
- Large number of cows that are dry during the lactation period.
- Lack of good quality and expensive dairy breeds
- Inadequate supply of veterinary requisites
- Poor access to credit
- Low farm gate prices for milk
- Inadequate extension services
- Unorganised dairy value chain

For intensification of the dairy sector to be sustainable, there must be adequate infrastructure such as; access to reliable market; supportive government policies; credit availability; forages; access to dairy information and training; disease control measures; and adequate hygiene for milk collection. Substantial increases in milk production in Botswana are feasible with appropriate interventions. Increased productivity will not only enhance farm incomes, nutrition and reduce poverty but will also the supply dairy products to the growing urban population.

Previous attempts and value chain development

Notwithstanding the poor performance of the dairy industry, Government has set up a number of incentives to promote dairy production in the country. These incentives include the now defunct Financial Assistance Policy (FAP) which was later replaced by Citizen Entrepreneurial Development Agency (CEDA). The FAP scheme gave dairy promoters grants to finance initial capital developments, while CEDA offers soft loans for the development of dairy enterprises. Other initiatives instituted to promote the dairy industry include, the National Master Plan for Arable Agriculture and Dairy Development (NAMPAADD). NAMPAADD offers training to both current and prospective dairy farmers on technical and managerial aspects of dairy farming. The primary objective of NAMPAADD was to develop both the arable and dairy subsectors. In addition, government has also established a number

of milk collection and processing centres in some districts to assist in the marketing of the milk. Unfortunately some of these are underutilised because of low milk production. The dairy industry is protected from fierce competition through the use of import restrictions. As stated earlier, despite all these initiatives both output and productivity have remained disappointedly low.

In 2012 in order to address the problems besieging the dairy industry Government developed a dairy strategy with the view of improving the sector. The strategy identified several focus areas which are to be attended to in order for the industry to move forward. The strategy is fairly new and one cannot determine as to whether its implementation has been smooth and whether it has started to bear any fruits.

Issues for further investigation

Based on the shortcomings of the previous research, the following issues need to be addressed in the field research:

- Constraints to the dairy feed industry
- Un-grading of the dairy SWOT analysis, LEA carried one in 2009
- Cost structure of producers and processors
- Market shares of different markets, households, institutional buyers e.t.c and their requirements
- Employment in the whole industry
- Constraints faced by processors/milk collection centres and their cooperatives
- Government inspection and control

Leather Value Chain in Botswana

Overview of the sector

PRODUCTION

Leather as a commodity is highly traded with the bulk of skins and hides being recovered from ceremonial slaughter, butchers, collectors and artisan tanners in Botswana. Taken together, these process over 150,000 head of cattle, 40,000 sheep and 40,000 goats annually. The bovine, sheep and goat population is greater than 3 million, 273,000 and 1.7 million respectively. Raw product supply is dependent on this animal population.

In the tables below representing imports and exports, it is evident there are more imports of articles of leather, saddler, harness, travel goods, handbags and similar containers by value compared to total imports and exports of raw hides and skins (other than fur skins) and leather[3]. This suggests that Botswana is a major consumer rather than exporter of LLP. It can be concluded that Botswana currently has limited value addition capacity as most of the skins and hides produced are exported.

Table 10: Total Exports and Imports at Chapter Level (Pula) – 2011

Chapter	Description	Imports	%	Total Exports	%
41	Raw hides and skins (other than fur skins) and leather	818,000	0.0	37,181,000	0.1
42	Articles of leather; saddlery and harness; articles of animal gut (other than silk-worn gut)	53,743,000	0.1	1,826,000	0.0
61	Leather, leather manufactures, NES, and dressed fur skins	3,225,698	0.0	69,001	0.0

Source: Botswana International Merchandise Trade Statistics (2011)

EMPLOYMENT

The importance of the leather industry is underpinned by its potential to provide large scale employment to low skilled workers. In Botswana, the formal employment figures provided by LEA are shown in table 11 below. According to this data, semi and unskilled labour is the largest segment in the industry followed by mid-level skilled workers.

Table 11: Leather Industry Employment in Botswana

Employment									
Slaughter Facilities		Tanning		Hide Collectors		Hide Exporters		Manufacturing	
Number	%	Number	%	Number	%	Number	%	Number	%
276	45	50	8	30	5	67	11	185	30

[3] Botswana International Merchandise Trade Statistics (2011)
http://www.cso.gov.bw/templates/cso/file/File/BIMTS_2011%20ANNUAL_REPORT.pdf (accessed August 22)

GEOGRAPHICAL DISTRIBUTION OF VALUE CHAIN ACTORS

The leather value chain actors in Botswana are mainly concentrated in the Kgaleng district (65.6%), North (13.5%, Southern (9.89%), South East (5.2%) and Ghansi (5.7%) districts.

Table 12: Distribution of local Leather Value Chain actors

District	Village/Town	Slaughter	Tanning	Hide Collectors	Hide exporters	Manufacturers	Total
Southern	Kanye	3	4	4	0	8	
	Total	**3**	**4**	**4**	**0**	**8**	**19**
South East	Lobatse						
	Gaborone	1	1	0	1	4	
	Ramotswa	0	0	0	1	2	
	Total	**1**	**1**	**0**	**2**	**6**	**10**
Kweneng	Molepolole	4	8	2	1	9	
Kgatleng	Mochudi	4	0	0	0	4	
	Tsabong	7	28	-	0	29	
	Serowe	6	8	4	1	11	
	Total	**21**	**44**	**6**	**2**	**53**	**126**
Ngami	Maun	1	6	-	1	15	
North	Francistown	2	1	2	2	6	
	Selibe-Phikwe	6	0	1	0	0	
	Masunga	1	2	1	0	2	
	Total	**9**	**3**	**4**	**2**	**8**	**26**
Ghansi	Ghansi	3	8	-	0	9	
Total		**3**	**8**	**-**	**0**	**0**	**11**
GRAND TOTAL		**37**	**60**	**14**	**6**	**75**	**192**

Source: Situational Analysis of the Leather Industry in Botswana (2011), LEA

DOMESTIC CONTROL REGIMES

Licences are required for all exports, including to other SACU members, for food security, sanitary and phytosanitary, and statistical reasons, and under international conventions to which Botswana is a signatory. Under the Control of Livestock Industry Act of 1941 (as amended), exports of livestock and animal products are subject to a permit issued by the Director of the Veterinary Service.

The domestic regimes governing the trade in hides and skins in Botswana are provided by;

- Botswana Agricultural Marketing Board Act, 1974 (CAP 74:06);
- Branding of Cattle Act (CAP 36:02);
- Branding (Amendment) Regulations, 2004;
- Livestock and Meat Industries Act (CAP 36:03);
- Grading of carcasses (Amendment) Regulations, 2004;
- Hides and Skins Export Act (CAP 49:01)
- Hides and Skins (Amendment), Regulations, 2004 and;
- Disease of Animal Act CAP 37:01

GOVERNMENT POLICY

The Government of Botswana recognizes the Leather Sector as one of its priority sectors contributing to manufacturing and economic diversification.

Through a program focused on the development of the leather sector, several interventions through LEA have been established. LEA was created through a mandate of the small business act of 2004 to provide services which include intervention technology and market access. LEA has 13 branches and 4 incubators to fast track the development and growth of priority sectors including leather.

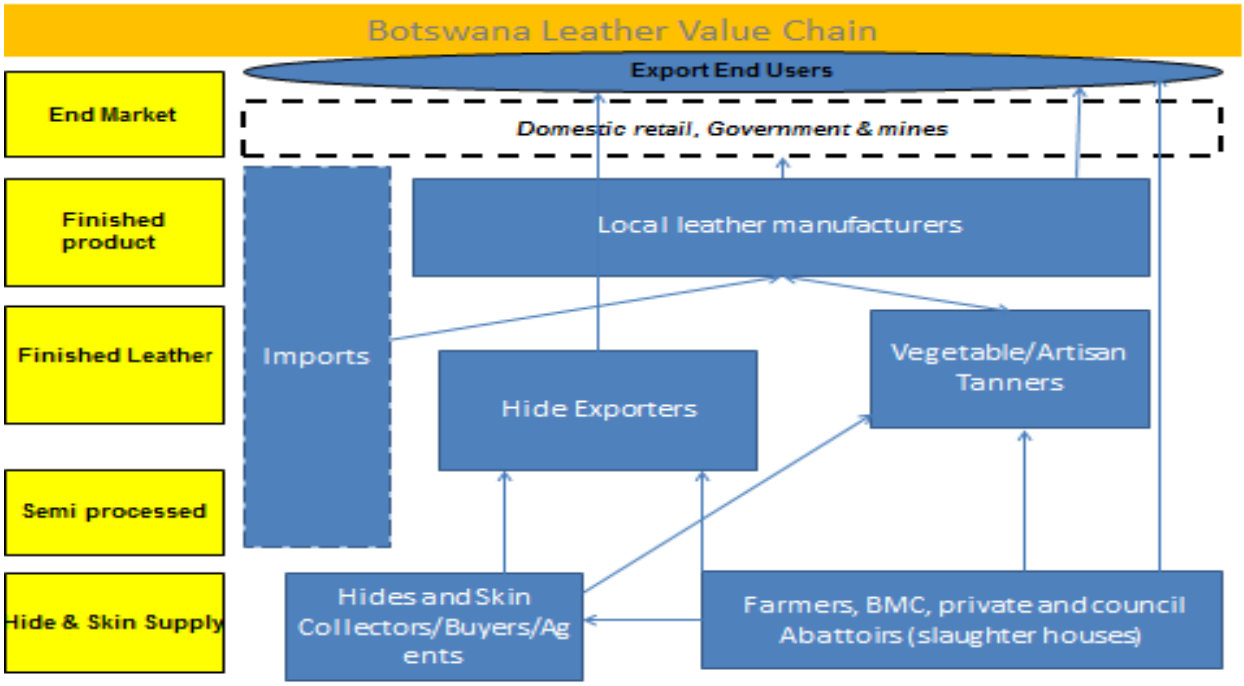
Government is investing in the value chain and promoting investment in this sector.

- Botswana has also established the Citizen Entrepreneurial Development Agency (CEDA) that provides a holistic approach to the development and promotion of viable sustainable citizen-owned enterprises. This is done through the provision of financial assistance in the form of loans at subsidized interest rates, and back up business training and mentoring services to enhance the sustainability of these enterprises.
- A Venture Capital Fund has also been established that is intended to facilitate funding of projects that could be both local and foreign owned. The CEDA Venture Capital Fund (CEDA-VCF) provides risk capital to financially viable start-ups, expanding businesses owned by citizens and joint ventures between citizens and foreigners in all sectors of the economy. The CEDA-VCF helps to relieve the equity capital constraint, which affects most citizen investors.
- There is also Botswana Development Corporation (BDC) owned by Government that loans citizen and foreign-owned entities funds over P5 million and/or provides premises, in order to develop companies so that they can increase local skills development and local employment.

The Structure of the Leather Value chain in Botswana

The trade of leather is influenced by the end markets which notably are, tanning enterprises (both vegetable and wet blue) and leather goods manufacturing. The first stages in the leather value chain involve skin and hide supply. Because the leather industry depends on the recovery of hides and skins of the farming stock, availability of raw material directly depends on the size of the animal population, the off take ratio and the weight/size of the hide/skin recovered. The bulk of the skins are exported as wet blue hides and a small quantity enters the local footwear and leather goods manufacturing sub sector. Exports consist of hand–flayed. Machine layed, wet and dry salted hides and skins.

Figure 13: Botswana Leather Value Chain



The main leather and leather products imported and exported for Botswana are listed below:

1. Salted Raw hides and skins
2. Raw fur skins
3. Finished leather
4. Composite leather and by products
5. Leather products and apparel
6. Tanned fur skins apparel and other
7. Leather used in Machinery
8. Footwear

INPUTS AND THEIR SUPPLY

In general, inputs for tanning (artisan and vegetable) in the leather sector in Botswana are obtained locally (82%) but chemicals are mainly imported from South Africa. The main accessories in leather manufacturing such as buckles, rubber shoe soles, glue or contact adhesive and zips are also obtained locally. Also imported from South Africa is equipment used by slaughter facilities, hide collectors, hide exporters, tanners and manufacturers.

The major imported inputs in Botswana are detailed below:

1. Tanning (Artisan and Vegetable)
   Semi-finished and finished leather chemicals: sodium sulphide, lime, ammonium acid, sulphuric acid, formic acid, salts, vegetable tans (Mositane, Mogonono, Mothakola, mohudiri, Morula, mimosa,Tsaodi, mochala, motswere, mokgwenene,mokabi and mopane), dyes, fat liquors and finishing agents (pigments, resins, dyes, auxiliaries). Some chemicals, such as common salt, lime and sulphuric acid can be procured from local market.

2. Manufacturing
   Footwear auxiliaries: Leather puncher, dividers, drilling machines, awls, cellulose, leather board, insoles. Cutting board; auxiliaries (e.g. threads, beads, rubber shoe soles, nails, reinforcing tapes, laces, buckles, decoration tools, brushes, hammer, sand paper, skiving machine, stitch makers, zip-fasteners); glue/ contact adhesives, polishes, etc. finishing chemicals; tri legged lasts, moulds, cutting dies, hand and machine tools; packaging materials, measuring tape and accessories

3. Leather goods auxiliaries
   Locks, zips, buckles, frames, fasteners, rivets, lining materials, etc.;

4. Production equipment
   Tannery machinery (e.g. wooden drums, fleshing and splitting machines, drying units, shaving and finishing equipment); equipment for leather products manufacturing (e.g. clicking presses, sewing machines, equipment for lasting, making and finishing of footwear); equipment for slaughter facilities (dehyders, chain blocks, flaying knives, hoits); equipment for hide collectors (spade/shovel) salt, brushes, fleshing knives, industrial gloves, canvas.

PRODUCTION AND PROCESSING

The skins and hides are bought by primary tanneries and converted to wet blue and sold to different segments of the value chain.. However, 50% of original hide stock is exported without further beneficiation. These tend to be of the grade I and II hides with the major market being South Africa.

The primary tanneries in the past included BMC (no longer operational) and Tanneries Botswana (which has since closed). Their function was to semi process the skins and hides bought to transform them to wet blues. At this stage, while the hides are preserved and transformed to wet blues, the

product produced is in effect a global commodity that is traded on the international market and responds to global changes in demand and supply.

Botswana has three (3) Botswana Meat Commission Export Abattoirs and One (1) Ostrich Export Abattoir; Six (6) Municipal Abattoirs and Six (6) Municipal Slaughterhouses and Eighteen (18) Private slaughterhouses distributed in Cities, Towns and major Villages as follows;

- Botswana Meat Commission Abattoir, Lobatse
- Botswana Meat Commission Abattoir, Francistown
- Botswana Meat Commission Abattoir, Maun
- Botswana Ostrich Abattoir-Gaborone
- Senn Foods Slaughterhouse, Gaborone
- Jwaneng Municipal Abattoir, Jwaneng
- Meat Inspection Training Centre Abattoir, Lobatse
- Gaborone Municipal Abattoir, Gaborone.
- Serowe Municipal Abattoir, Serowe
- Selibe-Phikwe Municipal Abattoir, Selibe-Phikwe
- Francistown Municipal Abattoir, Francistown
- Bobonong Municipal Slaughterhouse, Bobonong
- Mmadinare Municipal Slaughterhouse, Mmadinare
- Tonota Municipal Slaughterhouse, Tonota
- Tutume Municipal Slaughterhouse, Tutume
- Letlhakane Municipal Slaughterhouse, Letlhakane

DISTRIBUTION CHANNELS

Two sub sectors can be recognised in the Leather value chain in Botswana which influences the distribution of hides and skins.

- Hides and skins are collected from slaughter facilities by licenced collectors and distributed to hide exporters. The main markets for export hides are China, South Africa and Namibia.
- A portion of hides and skins are distributed to tanning factories (both vegetable and artisan tanners). Most of the leather distributed through this channel ends up on the domestic market in form of leather goods.

SUPPORT SERVICES

The Ministry of Agriculture provides training for the development of entrepreneurs. The LEA also has a leather incubation centre in Gaborone that provides support services. The major environmental concern for the leather industry is the management of effluent waste. Currently, a study is being conducted for the feasibility of leather treatment plant to support clustering in the industry and the use of new technology available in other countries.

Constraints to value chain upgrading

Technology / Product Development

- Privately owned slaughter houses lack access to appropriate tools and machinery (technologies) which affects the quality of hides and skins available for the market
- No finished leather tannery
- Lack of product focus

Market Access

- lack of information on standards reduces MSME's ability to produce to buyer specifications,
- lack of marketing organizations limits market outlets for MSMEs
- high transportation costs increases the price of MSME production
- Very low collection of skins limiting the potential to increase trade in hides and skins

Organization and Management

- MSMEs lack ability to keep proper records to help decision making at the enterprise level
- high wastage for skins and hides which result in loss of income for MSME producers and buyers

Policy

- export tariffs for hides and skins increase exporter costs and decreases global competitiveness of the value chain
- No single authority with overall responsibility for hides and skins improvement

Finance

- Slaughter houses are unable to upgrade their facilities which limits their expansion and production of quality hides

Input Supply

- high prices of chemical inputs restricts use by small tanning enterprises
- use of poor quality hides and skins by MSMEs results in inferior products unable to meet market demands

Previous attempts and value chain development

No information available.

Issues for further investigation

Based on the shortcomings of the previous research, the following issues need to be addressed in the field research:

- Updated overall status of production and exports/imports for Botswana. Are surplus or deficit (If Surplus, which markets are being exported to? If Deficit, where is the product coming from)
- Statement of the flow of the LLP from Botswana (To which countries Botswana is exporting and from which countries it is importing? How much of the imports are coming from the region? Why do these flows exist?
- What is the best guess for markets in the future? Growth? Competition?
- Who are the key companies that are involved in the sector currently? (Local or foreign investment? What are their approaches to: Purchasing; Building supply; Processing/linkages)
- What is changing in the sector; What are the driving forces behind the changes in the sector
- Determination of the key functions that drive the sector (government programs? quality and quantity of skins and hides? Price of skins and hides? Processing? Growing? Export markets?)
- Key issues for the leather sector in Botswana (Transport costs? Productivity? Business enabling environment (pricing laws, promotion etc.), Quality and reliability, Input supply, SPS/Supporting Services, Access to information, technology, Incentive structures
- Analysis of current strategy and any gaps given information that will be collected from above.
- Determine the employment by skill level and occupation in the Botswana Leather Industry
- Categorize employment information in order to provide an overall view of the employment by skill level and occupation to support development of the leather sector
- Domestic control regimes (licensing, SPS, price controls)

Business Enabling Environment in Botswana

Planned economic diversification has eluded Botswana for over 20 years. A country with an average annual growth rate of about 9% from 1966 to 1999, and then averaging above 6-7% GDP growth from the early 2010, Botswana has remained essentially a mono-economy. Over 70% of Botswana's wealth is generated from mining, essentially from diamonds. The severe economic decline in 2008 and 2009, registering low growth rates of 2.9% and a negative 4.8%, were linked to both the global economic depression of the time as well as Botswana's reliance on diamond exports. However an analysis of Botswana's export earnings between 2008 and 2012 shows the emergency of other sectors with copper nickel, textiles and beef following diamonds, in that order. The current growth rate seems inadequate to growing unemployment level (at 17.8%), in particular of young educated citizens.

Over 80% of Botswana's land is desert and only 4 % is arable, with the most viable agricultural activity being cattle ranching. With a population of about 2 million inhabitants, Botswana is sparsely populated. Although traditionally an agrarian people, this is contradicted by the focus on the city for livelihoods. Agriculture is not pursued enough as a commercial activity. Further there is, for the few commercial farmers, very little downstream industries to attract substantial investment into agriculture. The majority of commercial farming is linked to a very short value chain – from the farm-gate to the consumer.

Botswana is a net importer of both industrial and consumer goods. Its major trading partner being South Africa. Despite being members of SACU and SADC, and qualifying for AGOA preferences, Botswana is currently not taking full advantage of these trading opportunities due to a weak agro-processing and manufacturing base. Manufacturing and agriculture remain very limited economic activities, contributing 6.38%4 and 3% to the GDP, respectively.

The slow diversification process has left this country's work force with minimum choices in terms of employment, focusing mainly on Government jobs, mining and the services sector. Unemployment is currently standing at about 17% and impacting heavily on the youth who constitute about 60% of the population.

However Botswana continues to lead African nations in relation to its credit rating world-wide, its fiscal discipline and its focus on a growth path. It has consistently maintained budget surpluses and has extensive foreign reserves. It is rated the least corrupt country in Africa, according to an international corruption watchdog, Transparency International, and has a standard of living similar to Turkey and Mexico5. Its GDP per capita is the second highest in the 15 nation SADC Region (which includes South Africa).6 Although an all time double digit inflation rate (15.06%) was registered during the depressed year of 2008, Botswana has since maintained a single digit inflation currently at 4.50% (July, 2014).7 Benchmark interest rate seems to have come down from a high of 8% in 2013 to 7.5% since the beginning of 2014.8

The financial markets are viewed as investor unfriendly. Botswana companies in some cases have inherent structural problems which limit their competitiveness. The difficulties in accessing cheap finance for investment required to enhance productive efficiency worsen the situation.

Botswana's public policy remains firmly committed to the leading role of the private sector in driving the economy forward. The government-private sector dialogue seems to be results focused. There is a need though of a local private sector not entirely dependent on the public sector as a major consumer of goods and services to enhance Botswana's competitiveness in the global economy.

[4] http://www.tradingeconomics.com/botswana/manufacturing-value-added-percent-of-gdp-wb-data.html
[5] http://en.wikipedia.org/wiki/Economy_of_Botswana
[6] www.sadc.int
[7] www.cso.gov.**bw**
[8] www.**bankofbotswana**.bw

A peaceful nation, and an open economy, Botswana has a well-grounded democracy which seems to be guarded jealously by the Government, citizens and civil society. This, in part, bolsters investor confidence. The legal system protects investment.

Botswana's services sector including the tourism sector has recorded substantial contribution to the GDP at a time when contribution from the traditional source was uncertain.

Manufacturing in Botswana continues as an underdog to its large neighbour's, South Africa. This sector has shrunk considerably over the last 7 years, giving way to foreign manufactured goods. In the meantime there has been an increase in trading activities which are seen as net consumers of the scarce foreign exchange. However the business linkages with foreign owned large retail outlets, can become an asset in the production of exportable goods. Inhibiting factors to growth in the manufacturing sector include low investment in up-to-date technology, high cost of borrowing, inadequate long term capital and high cost of production.

The bulk of passenger and cargo transportation has for many years now continued to be by road. The old State run Botswana Railways has failed to compete even in bulk cargo movement. The telecommunication sub-sector has seen growth in the urban areas with an increase in Internet and mobile cellular telephone providers.

Although a Member of SACU9, Botswana does not belong to the Common Monetary Area(CMA)10. Botswana's Pula has remained stronger than the CMA currency, predominantly the South African Rand.

The HIV/AIDS epidemic, with a high prevalence rate of 23.4%, still threatens to stall and even reverse, some important achievements in all sectors. While it decimates the productive and trained human resource, it forces the diversion from productive expenditure of personal and institutional resources.

Botswana's Agricultural Policy and Ministry structure supports the growth of the industry and agro business. It is unclear how the Ministry intends to enhance implementation of the Policy. The Ministry has recently finalised a Dairy Strategy.The seasonal protectionism that the Ministry has so far offered to farmers from external competition by "closing the border" when a specific crop is available from local farmers seems unsustainable. Apart from being an NTB, there is no reports available as to the incremental value of this practice.

Agriculture however receives substantial support from Government. The full support which includes extension services and subsidised inputs was not fully investigated.

Botswana's consistency in its adherence to an open economic regime has logic within the context of the regional economic groupings such as SACU and SADC where its central geographical location – a hub of this region - can become a strategic economic advantage. This policy consistency, though adversely impacting on the local industry in the short term, can become one of Botswana's major attractions to outside investment.

Its membership to the Southern African Customs Union, exchange rates notwithstanding, offers Botswana a ready market. The SADC FTA with the protections inherent in the SADC Trade Protocol would enhance regional value chains. Botswana has further opportunities in the EU (under the EU-SADC EPA) and the envisaged Tripartite FTA.

Botswana has in place strategies and policies to promote private sector competitiveness and growth. These include the Excellence Strategy, the Economic Diversification Drive, the National Export Strategy, and the Private Sector Development Strategy and its Programme. It has however been noted that some of these policies conflict with each other such as the EDD and the Citizen Economic Empowerment (CEE) policy.

[9] Members of SACU = Botswana, South Africa, Namibia, Lesotho & Swaziland
[10] Members of the CMA = South Africa, Namibia, Lesotho & Swaziland

The results from the advocacy work of membership organisations demonstrates a continuously improving business environment with, however, several unaddressed challenges. These include challenges in land allocation, the bureaucracy in setting up business, work and residence permits and anticompetitive behaviour by neighbouring countries.

The area of Business Services is considered a generally weak area. Business membership organisations have inadequate capacities to provide support such as training to members. Associations such as the Dairy Association and Small stock Association, once run from their Chair Persons' offices, no longer exist.

There is a College of Agriculture and such support institutions as the Local Enterprise Authority (LEA). It remains unclear as to how these could propel the selected sectors forward, and how they would prioritise the new initiatives.

Lessons from Other Countries

Value Chain Upgrading

Value chain upgrading is about innovation in order to add value, achieve competitiveness and respond to changing market environment. Upgrading can occur at firm-level and industry levels:

- firm level upgrading is about development and use of knowledge, ability of a firm to respond to changing market conditions in order to achieve higher and national economic growth. The outcome of firm level upgrading is that it can provide MSEs with higher returns and a steady more secure income
- industry-level Upgrading focuses on increasing the competitiveness of all activities involved in the production, processing, and/or marketing of a product or service and mitigating the constraints that influence value chain performance.

Upgrading is therefore a *multi-dimensional* process that seeks to increase the economic competitiveness (profits, employment, skills) and/or social conditions (working conditions, incomes, education system) of a firm or industry. Upgrading also involves a learning process through which firms acquire knowledge and skills, often through their relationships with other enterprises in the value chain or through supporting market services that get translated into innovations or improvements that increase the value of their products or services. Upgrading depends on the firm's capabilities in terms of internal capacity to learn and change from what it has done in the past, as well as to innovate and ensure continuous improvement in products and processes and the incentives for firms to invest in upgrading. If firms do not foresee viable benefits to investments, like higher incomes, secure markets or lower risks, they are unlikely to spend time or resources on upgrading.

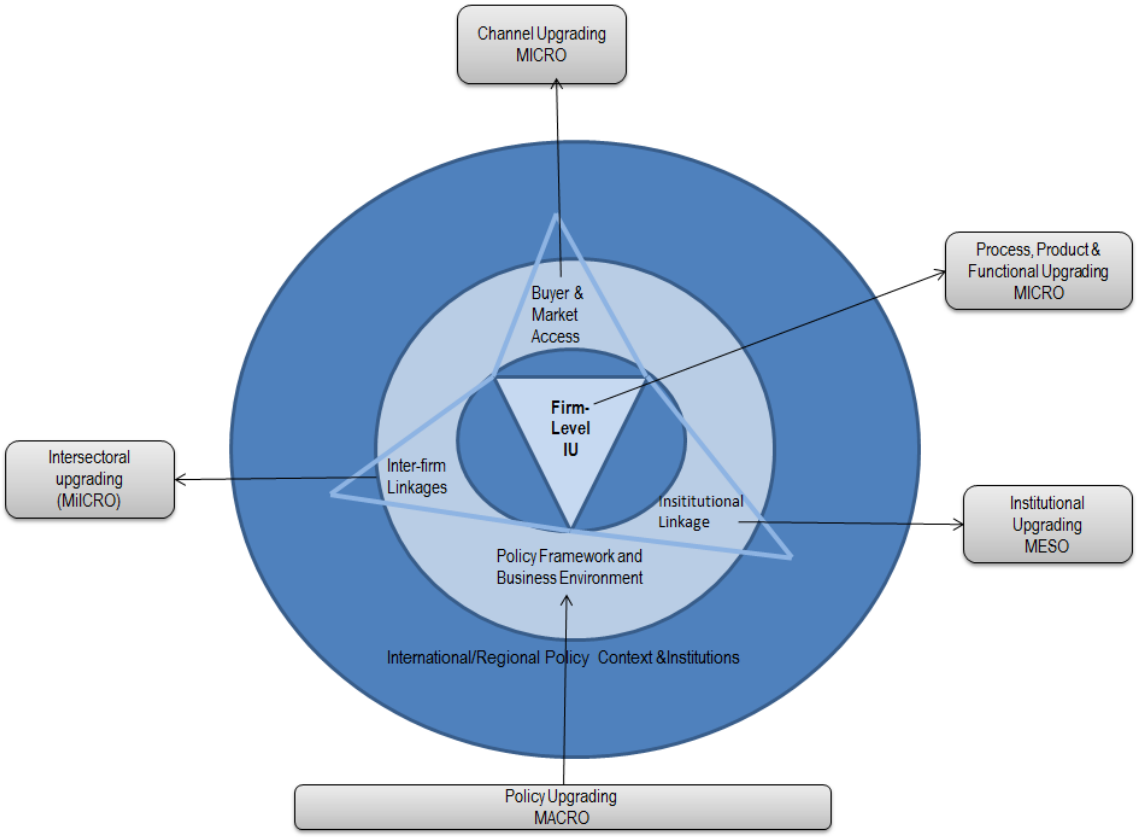
There are five types of upgrading at a micro level that firms undertake: process upgrading, product upgrading, functional upgrading, channel upgrading and inter-sectoral upgrading[11]. Process upgrading is about increasing production efficiency and reducing unit costs. Product upgrading is about improved product quality, and increasing value to consumers. Functional upgrading is about firm entry into a new level of the value chain or a firm taking up a new function. Channel upgrading is about firm entry into a pathway leading to a new end market. Lastly inter-sectoral (inter-chain) upgrading is about firm entry into new value chain based on a different product.

Upgrading also occurs at meso (institutional) and macro (policy) levels. Policy upgrading addresses constraints which aim at creating enabling policy environment for firms to upgrade. Institutional upgrading creates vertical and horizontal relationships to enhance the flow of end market information and firm bargaining power which are necessary for firm upgrading. The various types of upgrading are frequently connected.

Figure 14, on the next page, presents diagrammatically the dimensions of value chain upgrading.

[11] http://pdf.usaid.gov/pdf_docs/PNADP301.pdf

Figure 14: Value Chain Upgrading Dimensions[1]



Meat Value Chain Lessons

CASE STUDY: THE PIG VALUE CHAIN IN VIETNAM (DETAILED IN ANNEX 2)

Project Outcomes:

- increased pig production.
- increased access by buyers of goat meat to healthier and leaner pigs through increased use of veterinary services and better raising techniques
- business opportunity for local distributors because some of the pig rearing groups started buying improved pig raising inputs in bulk (such as feeding, stoves, and biogas technology)
- increased net incomes from quality pigs, and a higher survival rates for pigs resulted in new groups being formed in 7 out of 12 target communes in 2012.
- increased incomes of the participating households which even exceeded the project target of €70 per year to an average of €112 per year. The project also generated extra income for vets of around €149 per year by mid-2013. The majority of these vets that were trained by the project did not have any income from vet services before the project.

Upgrading Activities

1. Process upgrading was achieved through increasing productivity and profits of pig enterprise through improving production efficiency by having goat breeding farmers and veterinary services within the communities. Process upgrading was achieved through reducing transport costs by establishing of large-scale state owned pig farms closer to areas of high consumption.

2. Product upgrading was achieved from improved qualities of pig breeds.

3. Institutional upgrading was achieved through forming pig rearing interest groups and working with various stakeholders to support the upgrading of pigs into a competitive pig enterprise. Strong linkages facilitated the groups to upgrade by helping them to access assistance from supporting markets such as pig buyers, veterinary services such as vaccines and medicines against parasites.

4. Functional upgrading was achieved through some pig farmers taking up new roles of breeding pigs and also providing veterinary services which previously they never did.

5. Intersectoral upgrading was also achieved through pig rearing farmers with technical assistance from the project were introduced to improved stoves and biogas which are in the energy sector and not the pig sector but an interlinkage was established through use of by-products from pig production.

6. Horizontal linkages with other industries enhance businesses potential. The project promoted other interventions in the energy sector such as biogas and cooking stoves supply chain which were previously not available pig rearing group members. The intervention had enabled pig farmers to access and install biogas. The stoves had greatly helped pig raising group members to reduce the amount of firewood used for cooking the pig food. The biogas technology reduced the workloads for women (with less needs for firewood).

Key Lessons of success:

- Setting up of local self-organisation and use of local organisations in the delivery of services provided additional income to local service providers such as trained vets.

- The contracting of a field implementer is very important in the early stages of a project. In the case of this project, the role of HADEVA was instrumental in linking local actors and coordinating initiatives, and sometimes even acting as intermediary distributor of pig raising

inputs. For sustainability the role of HADEVA was to gradually get reduced and phased out with more responsibility handed over to local authorities.

- Advocacy is an important intervention. The advocacy which was conducted by the project had aimed at institutionalizing policies and practices among the relevant public institutions (AES, AHS) that were involved in project implementation. Evidence and lessons gathered by the projects are also relevant for advocating for a more conducive policy framework for small-scale pigs. The project therefore facilitated policy upgrading at macro level.

CASE STUDY: GOAT MEAT PRODUCTION AND PROCESSING IN NEPAL: [12] (FURTHER DETAILS IN ANNEX 3)

Project Outcomes:

- Goat meat production increased by 50 percent partly due to upgrading of the value chain through selection breeder goats but also increasing consumption of meat in urban areas

Upgrading Activities

1. Process upgrading was achieved through increasing productivity of goats from having selection of local goats for breeding within the communities and implementation of the animal slaughter house.

2. Production upgrading was achieved through selection of breeding goats.

3. Institutional upgrading was achieved through engagement of stakeholders and establishment of goat resource centres. Various organizations (government and nongovernmental organizations) worked together in promoting income generating goat program. The establishment of goat resource centres were managed using the concept of 'farmers' managed community goat resource centres'

Key Lessons of success:

- Diversifications into other end markets help increasing benefits to farmers. Goat farmers were initially expected to produce goat for meat but the farmers were able to access the goat breeding market by selling the selected breeding goats to other goat farmers for rearing.
- Consideration of socio cultural issues in value chain upgrading is very important for success of the intervention. Upgrading of the goat value chain at policy level through implementation of the Animal Slaughterhouse and Meat Inspection Act and its regulation which aimed at availing clean and hygienic meat to the consumers since 2000 was unsuccessful because some of the provisions were difficult to observe for example- meat inspection regulation bans the use of skin as meat but the practice continued because of skin price were much lower than of the meat price, and the Nepalese consumers' preferred meat with goat skin.
- Market driven value chain upgrading enhances upgrading. The goat project realising that there was a niche Market for goat meat pasture-fed, very lean goat meat, with little fat cover and minimal marbling and off-skin meat, passed the information to the farmers and this helped the farmers to upgrade by producing according to market requirements.

Case Study: Dairy Value Chain in Kenya (refer Annex 4 for more details)

Project Outcomes:

- Improved milk quality
- Transformed dairy value chain from warm milk to cool milk

Upgrading Activities

1. Process upgrading by USAID involved upgrading trainers through providing them with training and loans for milk cans in order to improve quality of milk and reduce losses due to

[12] ftp://ftp.fao.org/osd/CPF/Country%20NMTPF/Nepal/thematic%20studies/Market-Led%20Meat%20_Comments%20Adjusted_.pdf

poor quality milk because of poor transport system and lack of good milk cans for transporting milk.

2. Production upgrading was done through raising productivity, supply of dairy animals, and reduction in costs and education of consumers on the benefits of milk in order to increase demand for quality milk.

3. Institutional upgrading was achieved through improving quality control, financing to producer organisations and milk collection and cooling centres.

Key Lessons of success:

- Other opportunities existing for the farmers exist in the input markets for dairy value chain would further increase project impact, however the project failed short to take the dairy upgrading to such end markets. Dairy farmers apart from milk producing for income, the farmers could also invest in input supply chain as service providers for forage seed, forage, dairy heifers, dairy beef, and transport services.
- Milk being a perishable commodity, milk cooling systems and fast transportation of milk enhances the quality of milk.
- There are higher margins in milk transportation than milk production hence milk upgrading at farm level should include improved transportation of milk in order to improve farm gate margins for farmers.
- Milk upgrading is a capital intensive value chain hence there is need for special financing arrangements to allow farmers to procure milk cooling facilities, good milk containers such as milk cans and good means of transport for fast transportation of the milk. The existing financing arrangements do not serve the small scale dairy farmers because of collateral requirements and often the financiers prefer seasonal loans than long term loans while most the dairy equipment is long term in nature.
- The incentive for selling of milk by farmers to processors is too low because the payment arrangements for milk sold to milk processors do not favour small scale dairy farmers. Often the milk is bought from farmers on credit and payment is delayed in some cases by more than a month.

Case study: Ethiopian Leather and Leather Products[13]

Project Outcomes:

- productivity gains in some companies, and increased product collections.
- increase of leather and leather products exports from USD 67 million in 2004/05 to USD 104 million in 2010/11.
- shift from raw material exports to exports of finished leather, shoes and leather goods.
- improving finishing techniques made.

Upgrading Activities

1. Process upgrading was done in the Shoe Industry through provision of multidisciplinary support to a number of pilot factories in the shoe industry and large numbers of Micro and Small/Medium Enterprises (MSMEs), which make up half of Ethiopia's shoe production.
2. Production upgrading was achieved by the project through providing technical benchmarking, and promotion of innovative tools and methods for supply chain management.
3. Institutional upgrading involved building the capacity of the national leather institute (LIDI) on a continuous basis through several ways such as assistance to laboratory accreditation which enabled LIDI to provide quality tests for the industry which helped in facilitating leather products exports. The project also built capacity at LIDI's marketing Directorate by

[13]UNIDO project number: TE/ETH/08/008www.unido.org/fileadmin/user_media_upgrade/Resources/Evaluation/Ethiopia_leather_evaluation_FINAL_report_130208.pdf

transferring skills on how to conduct marketing studies, and provided support to LIDI's Communication Directorate by developing the LIDI website.

4. Channel upgrading was done through introduction of new products and quality assurance, creation of exposure to international markets and improving the management and marketing operations of firms. The project facilitated participation of LIDI and selected enterprises in international fairs.
5. Policy upgrading was done through the Government of Ethiopia promoting exportation of finished leather products by imposing heavy tax on exported unfinished leather. This was done in addition to other various export incentives including income tax exemption, duty free imports of equipment, shortening period of license processing and renewal of permits among others which the Government had already put in place.

Key Lessons of success:

- Capacity building during value chain upgrading is important to ensure that the value chain actors become knowledgeable of what they are supposed to do. There therefore need for good transfer of skills and knowledge from technical experts to local experts. In the leather project this was however not the case. The transfer of knowledge from international experts to LIDI and other local staff was not efficient especially for the short term experts.
- Ongoing monitoring, evaluation and project redesigning should form part of the upgrading process because monitoring and evaluation provides lessons which allow for redesigning of the project in order to avoid wasting resources on interventions which were not working. The Ethiopian Leather Industry implemented a pilot activity at one of the shoe factories which tested Enterprise Resource Planning system (ERP) innovation that is widely used in the Italian shoe factories. The outcome demonstrated that the technology was not quite appropriate under the given circumstances: hence up scaling the experience to other companies was not done and the experience helped the project to change strategy.
- Developing financial markets for MSEs would enhance upgrading process and product upgrading. These often require long-term investments for which the majority of the leather industry MSEs might not afford because of requirements for collateral, high interest rates as it is the case in the leather value chain in Ethiopia. Development of financial markets for MSE investment capital would enhance their capacity to respond to and benefit from upgrading opportunities.
- Promotion of horizontal and vertical collaboration among SMEs and large processors can reduce transaction costs and increase profits. The relationship could be one off or long term relation as it happened in the Ethiopian Leather Industry. Some of the informal and SMEs tannery processors and leather products manufactures were being contracted for certain processes in the leather industry by large scale operators. The effect was reduced cost of production by large processors and increased market to the SMEs which brought in more income and profits.

Generic Lessons Across all Value Chains[14]

There are several lessons which can be drawn from upgrading experiences from other countries of meat, dairy and leather sectors which could suggest ways for facilitating upgrading of value chains in Botswana.

1. **High Project Relevance**: All the three value chains were relevant to the needs of beneficiary and also to the country as a whole. For example the dairy and meat value chains are important not only for income but also for nutrition to the participating farmers and contribute to the growth of a healthy population and poverty reduction. Leather value chain would contribute to poverty reduction and generation of forex.

2. **Capacity building during value chain upgrading:** This is important to ensure that there is good transfer of skills and knowledge from technical experts to local experts. Transfer of

[14] These are in line with the lessons which were drawn by USAID briefing paper, MSEs upgrading in value chains.

knowledge from international experts to LIDI and other local staff was not efficient especially for the short term experts.

3. **Upgrading should aim at reaching new end markets in order to maximise profits:** For example, in the dairy value chain of Kenya the project concentrated its upgrading mainly on improving production and quality of milk, other end markets such as selling of forage, heifers and beef from dairy cows among others were not explored. However the meat value chain especially the goat and pig value chain did diversify into other end markets in its upgrading by allowing some goat farmers to engage in goat breeding; also the pig value chain allowed some farmers to veterinary services provision.

4. **Development of the local market alongside development of the export market:** This should be a key component because as one upgrades a value chain for the export, there is need to also develop the local market. For example the Ethiopian footwear and leather products industry improved its profitability and its competitiveness on export markets while also expanding the local market.

5. **Policy level interventions should form part of the upgrading processes:** The policies could aim at creating an enabling environment for upgrading or addressing some constraints. For example in the case of the Ethiopian Leather Industry, the Government of Ethiopia realised that most of the leather was being exported raw which was not bring much money to the beneficiaries but also to the country in form of forex. The Government of Ethiopia therefore decided to promote exportation of finished leather products by imposing heavy tax on exported unfinished leather. Also in the pig value chain in Vietnam policy advocacy was part of the pig value chain upgrading.

6. **Value chain upgrading should aim at introducing innovation and not to do business as usual:** Some of the innovations which could be used but were not used in the 3 value chains under study is the use of information communication technology such as mobile phone short messaging service for fast and timely communication of extension messages including market information which would link farmers to markets.

7. **Increased bargaining power for MSMEs provides greater incentives to upgrade by reducing risks associated with up- grading:** The bargaining power of MSMEs can be enhanced by information about markets, prices and quality required by buyers. Horizontal collaboration among MSEs for purposes of collective bargaining is also important in improving profits in the short run for example through an association as was the case with goat meat upgrading in Nepal, goat rearing groups were able to access veterinary services as group from a veterinarian that was allocated to the group and this reduced cost of access veterinary services.

8. **Ongoing monitoring, evaluation and project redesigning should form part of the upgrading process:** This is because monitoring and evaluation provides lessons which allow for redesigning of the project in order to avoid wasting resources on interventions which were not working. An example of this is the Ethiopian Leather Industry which implemented a pilot activity at one of the shoe factories which tested Enterprise Resource Planning system (ERP) innovation that is widely used in Italian shoe factories. The outcome demonstrated that the technology was not quite appropriate under the given circumstances: hence up scaling the experience to other companies was not done and the experience helped the project to change strategy.

9. **Promoting horizontal and vertical collaboration among SMEs and large processors can reduce transaction costs and increase profits:** The relationship could be one off or long term relation as it was happening in the Ethiopian Leather Industry. Some of the informal and SMEs tannery processors and leather products manufactures were being contracted for certain processes in the leather industry by large scale operators. The effect was reduced cost

of production by large processors and increased market to the SMEs which brought in more income and profits.

10. **Develop financial markets for MSMEs:** because process and product upgrading often require long-term investments for which the majority of MSEs might not afford because of requirements for collateral, high interest rates as it is the case in the leather value chain in Ethiopia. The credit terms for most of the available formal and informal finance for MSEs mostly offer short-term working capital loans and long-term investment needs associated with upgrading. Development of financial markets for MSE investment capital would enhance their capacity to respond to and benefit from upgrading opportunities. Of the three value chains studied, only the milk value chain had facilities for assisting farmers to access milk cooling equipment and milk cans. There is therefore need for programs to build in their intervention financial resources for capital investment.

11. **Improved transmission of market information and price signals to MSEs:** Transmission of market information and prices to MSEs helps them to access markets at better prices and eventually income because knowledge about prices improves the beneficiaries' knowledge. Strong and timely market information increase benefits to MSEs in value chains, helps in strengthening vertical relationships and ensure MSEs receive a price premium for higher quality products. It is important that for upgrading to take place, the minimum requirement is that MSEs must receive timely information about consumer preferences in end markets. For example, in Nepal consumers preferred Potential Niche Markets for goat meat in the sense that there were some consumers who preferred pasture-fed, very lean goat meat, with little fat cover and minimal marbling and off-skin meat which meant goat farmers had to respond to the market by producing the type of goats required by the market as long as the market was able to pay them premium prices.

12. **Contracting of a field implementer is very important in the early stages of a project:** This is because it helps in the coordination of all key stakeholders as it was done with the pig value chain Vietnam in which HADEVA was instrumental in linking local actors and coordinating initiatives, and sometimes even acting as intermediary distributor of pig raising inputs. For sustainability the role of the implementer in this case HADEVA was gradually reduced and phased out with more responsibility handed over to local authorities.

Conclusions and Gap Analysis

Gap Analysis

The following Table details the information that needs to be collected during the next phase of the assignment

	Understanding of the Sector	Value Chain Analysis
Meat sector	Piggery • Current employment levels in the industry • Pricing of pork products • Share of different market channel by end markets • Geographical distribution, number of producers, by size, level of technology/production systems • Source of start up finance for value chain actors especially at producers level • The extent to which some supermarkets do not sell pork due to religious believes • Per capita consumption of pork Goat • No specific information on goats per say but is captured under smallstock • Limited infrastructural development to support chevon marketing • Contribution of small-stock sub-sector to socio-economic development not there (no employment data, market information, relevant players, size etc) • No small-stock / goat meat value chain done (the PRINT PROJECT VAIMS study was localized) • Policies aimed at SMME • Capacity building exercises & other technical assistance for small-stock producers Poultry • SMME size of involvement in sector • Policies aimed at SMME • Lack of commercial poultry production distribution & number of birds produced data • Lack of data on growth • Capacity building exercises & other technical assistance for SMME • Policy on way-forward after the achievement of import substitution silent i.e. there is no strategy going forward to attract new entrants into the production cycle. One would expect an export policy to be in place. Poultry exports were not negotiated for under the EPA	Piggery • Number of producers by size, level of technology • Source of inputs for producers such as feed, breeding stock • Products produced by the processing sector • Raw materials for the processing sector (local and exports) • The number of feed processing plants producing pig feed and the quantities • The number of distributors, by their characteristics, whether manufacturers or retailers and sources of their inputs • The number of supplier selling piggery equipment and sources • Support services by type and their adequacy • Number of butcheries selling pork and its by-products • Size of the processing sector and number of abattoirs Goat • Mapping the value chain (map actors systematically involved in production, distribution, marketing and sales) • Legislature governing the sector • Comprehensive SWOT analysis of the sector especially looking at opportunities and threat to new entrants • Standards and certification (SPS requirements and issues of consumer protection) Poultry • Legislature governing the sector • SMME size, role, policies and technical assistance developed for active participation in sector • Regional poultry value chain mapping • Comprehensive SWOT analysis of the sector especially looking at opportunities and threat to new entrants • Linkages within the value chain and how they can be enhanced to promote a win-win situation among the players • Standards and certification (SPS requirements and issues of consumer protection)
Dairy sector	• Pricing of dairy products to determine as to whether they follow policy of import parity pricing; who determines the prices • Employment figures at each stage of the value chain • Share of different market channels • Geographical distribution of value chain actors • Source of start-up finance for value chain actors, especially at primary production and processing level • Type of cattle breeds kept to produce cream that was sold to South Africa and any exports currently • Licensing requirement for a operating a dairy farm	• Products produced by the processing sector and quantities • Quantities of raw milk imported by the processing sector and local production (for each processor • Type and quantity of dairy feed produced by local feed processors • The quantity of raw materials used in feed production/processing by source (local and imports) • The operations of the milk collection centres and the challenges they face • The operations of dairy farms, their cost structure, level of technology and inputs used and outputs • Source of inputs for producers such as breeding stock, feeds and veterinary services • Kind of transportation used by farmers • The sale or otherwise of by products from the dairy farm, e.g. male calves and cull cows • Number of actors at each stage of the value chain • Support services and their adequacy • Whether farms are required to have been registered or not
Leather Sector	• Production and processing: description of the base production and processing in Botswana, figures on number, size of actors, inputs required, productivity and cost structures (as available). Also describe the technologies used, government inspection and controls •	• Outbound logistics: description of current logistics for domestic and international markets including cold chain. Cost structures • Markets: description of current market distribution (domestic and international) with description of demand (trends), distribution structures (direct to supermarket, wholesale, markets etc) and prices, margins (as available).

	Understanding of the Sector	Value Chain Analysis
		• Inputs: description of the state of the inputs available, figures available on the number and type of actors, costs and prices (as available)

Conclusions

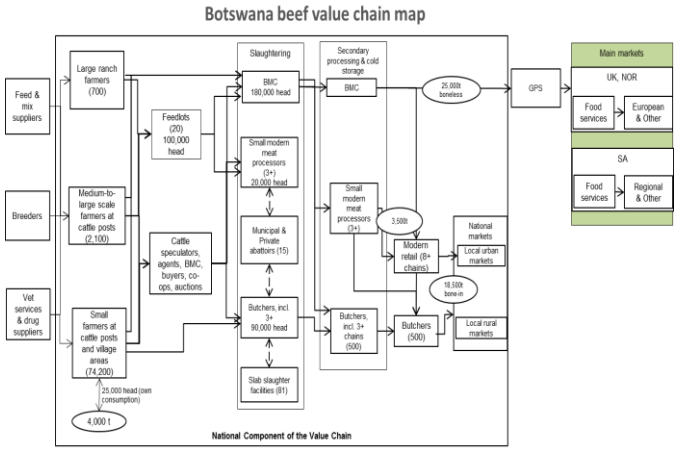
Situation analysis reports of the concerned value chains have been done using the value chain approach. The situation analysis reports however only assisted in mapping out the value chain actors and the constraints hindering competitiveness of the value chains but fall short of action plans for achieving competitiveness. The action plans are expected to help in identification of the concrete steps required to be undertaken in order to upgrade the value chains and achieve competitiveness.

These situation analyses will therefore, be a useful aid to the mapping of the value chain and provide guidance to the development of questionnaires for the field research phase to identify constraints and opportunities. Then during subsequent phases, concrete, detailed practical strategies for development of these sectors, including action matrices will be developed.

Methodology and Workplan

Mapping the Value Chains

The immediate priority for the team is to map the value chains under investigation. This will provide a picture of the overall sectors being investigated. In parallel, a institutional map of support services will be developed. Without such a mapping, the sampling survey can not have meaning as it will be important to understand how representative of the various market segments the responses gathered will be – this will provide important information as to the rigor and accuracy of the results.



Although the terms of reference specify 3 value chains, for the purposes of accurate mapping, there are in fact 5 which have to be presented separately. These are: Leather, Dairy, Poultry, Piggery and Small Stock (goat/sheep).

The mapping will follow the process and method set by previous value chain surveys under the PSDP, namely beef and horticulture.

However, for each box (detailing the actors within the value chain), the following metrics will be collected:

- T/O (value and volume): providing an indication of the size of the segment which provides a baseline for the relative significance of the segment to the value chain. It also provides the baseline upon which other metrics are estimated.
- No. of enterprises(total): providing an estimate of the total number of enterprises present in the segment.
- Profile of large, medium small and micro enterprises in each segment:
    - Number of firms - total number of large, medium, small and micro firms in that segment respectively
    - average size of enterprise in each group– size of MSMEs is generally measured by turnover range, employment and assets – all these metrics (where available will be presented); for assets, value is not appropriate within the context of many of these segments so other indicators will be used such as average head of cattle owned for raw milk producers
    - % contribution to sector value – the contribution of each group to overall segment (eg x% of raw milk production by micro enterprises)

It should be noted that the dataset available is unlikely to be complete and so where no hard data is available, estimates will be used in order to calibrate and set the baseline for the survey. Where date is unavailable, estimates will be based on expert consultations (questioning a range of experts for opinion on, for example, % small firms in a segment, averaging the opinion and then consulting on the average with these to refine estimates.

During the mapping of each value chain, a database of actors linked directly to each segment will be created to enable each reference and facilitate the survey stage of the assignment. The database will contain the name and contact details of the firms.

Value Chain Survey

Enterprise Survey

The scope and coverage of the survey in each value chain, and in each segment will be determined after the mapping has been completed based upon the number and significance of micro, small and medium enterprises in each segment within each individual value chain sector. This will be matched to resources available for the survey as determined by the terms of reference and proposal, considering manpower, time available and expenses. But the methodology to be employed will comprise:

Online survey: The rationale for this survey is to collect in a cost-effective way data from as many MSMEs as possible; within the online survey only closed questions should be used allowing for easy data processing. In view of the scope of this survey component, it is planned to send out about 1000 emails in each value chain (email addresses permitting). However, experience of surveys in other countries, in particular Africa and Caribbean has shown that 2-3% response rate can be expected. Whilst this is not expected to be a successful method, it costs little in terms of resources and 20-30 responses, however small, can contribute to the level of knowledge of each sector.

Phone Interviews: It is anticipated that the bulk of the survey will be undertaken through telephone interviews. This will be based on a questionnaire allowing closed and open questions. The rationale is to gain a better knowledge on the research questions, allowing also for examples and qualitative evidence and case studies. In view of the scope of this survey component, it is planned to contact 100 firms, hoping to get a chance for at least 50, but preferably 80 interviews in each value chain (this alone would be 5-7 days input per chain).

Firm Visits: To compliment the online survey and the phone interviews, 15-20 firm visits are planned to be visited in each chain. The rationale is to get a further insight of the MSME sector, especially at a more detailed level. A questionnaire and guideline for firm visits, accompanied by a reporting format, will be prepared. The firm visits will also be used to guide telephone interview with one third visited at the start prior to any phone survey, one third in the middle and one third at the end. The team leader will undertake 1-2 interviews at the end to build understanding and check and confer quality assurance of the survey.

Institutional Survey

The rationale for interviewing stakeholders and key informants is to assess the business and regulatory framework and support services throughout each value chain. The scope of the institutional survey be handled in a flexible way, but should not exceed 50. The selection of the participants of the institutional survey will be undertaken at a categorisation/ on institutional level. Institutions to be considered for being approached can be clustered into the following categories:

- Ministries (policy framework)
- Government Institutions / State Agencies / regulatory bodies (licensing and control)
- Donors (programmes support the sectors)
- Business Support Organisations (certification, market support, extension services etc)
- Banks (experience of lending, default rates by sector)
- Research Institutes
- Training bodies (TVET)

BENCHMARKING

In order to contextualise the results of the enterprise survey and make assessments as the current and future competitiveness of each value chain, at each stage, a benchmarking exercise will be undertaken based on internet research. The benchmarks will provide as much information regarding the following metrics:

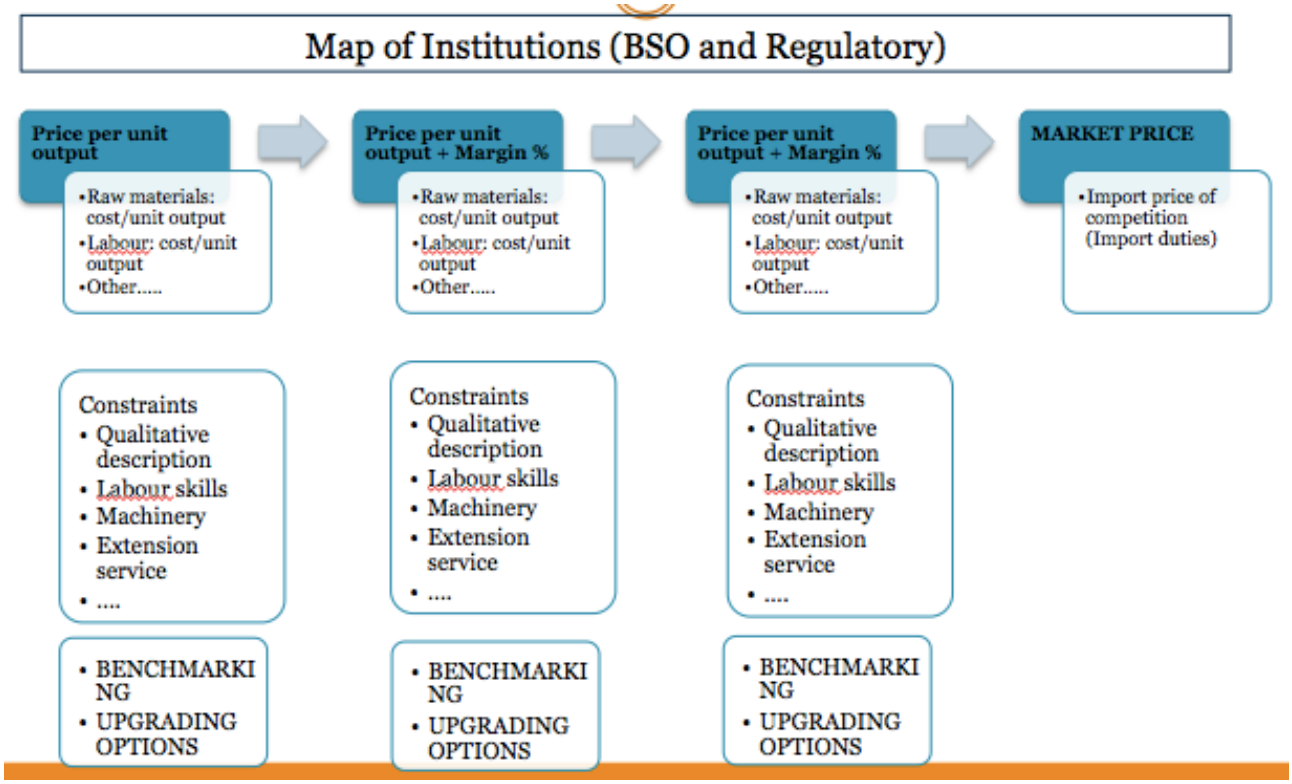
- International Productivity Comparisons
- Outputs (yield)
- Input Costs
- International prices (products/intermediate products – calibrate CIF Gaborone)

The sources of information for benchmarking will be International Statistics (FAOSTAT); Comparative countries (environment by sector) studies, academic manuals on production, value chain development projects (reports).

Workshop Phase

OUTPUTS

Based on the value chain survey, each value chain will be presented in a series of sub chain focus on each product (for example, in dairy, presentations of data for raw milk production, processed milk, cheese, value added products. The data for each of these sub-chains will be presented as follows:



Workshops

Following the preparation of draft value chain research reports, a series of sector workshops will be held – these will have 3 components:

1. Presentation of results: based on each individual sub-value chain
2. Focus group validation of results: to verify and agree by consensus the results of the survey
3. Development of roadmaps: to focus and prioritise objectives for the action plans.

Next Steps and Workplan

Following the workshops, the team will begin the process of developing formal roadmaps specifying objectives, outputs and targets for each sector. Based on these, detailed action plans will be developed.

The future workplan for the research/workshop phase is presented below:

The future workplan for the roadmap/action plan is presented below:

Cascading Roadmap/Action Plan Preparation

➔Priority VC 1 +3 weeks

➔Priority VC 2 +3 weeks

➔Priority VC 3 +3 weeks

➔Priority VC 4 +3 weeks

➔Priority VC 5 +3 weeks

Annexes

Annex 1: List of references

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Annex 2: Strengthening the Pig Value Chain for Income Generation & Environmental Management in Vietnam

Overview

Pig industry is an important sector in Vietnam's rural economy and pig meat account for more than 70% of Vietnam's total meat production. Pork is also the single most important source of animal protein and virtually all Vietnamese eat pork. In view of the significance of the pig industry to Vietnam economy, pork market in Vietnam has undergone commercialization through establishment of large-scale state owned pig farms closer to areas of high consumption in Red River Delta, and Mekong Delta. In addition to local production, pig meat is increasingly imported into Vietnam at prices that are cheaper than the domestic market prices.

Small-scale back-yard household production account for the majority of the national pig herd with households keeping around 1-10 pigs yearly. The overall percentage of small-scale pig production however decreased from 80% of the national pigs herd to around 64%, which are also mostly local and local cross-breeds of pigs. Small to medium scale production doubled from 10% to 20%, and medium to large-scale production also increased and the focus is on exotic breeds.

The section presents lessons learnt from upgrading pig value chain using a project called Strengthening the Pig Value Chain for Income Generation and Environmental Management which was implemented in Vietnam[15]. The upgrading process of the value chain started with mapping of actors and stakeholders in the pig value chain.

Actors and Stakeholders in the Pig Value Chain.

The activity resulted in identifying the following actors and stakeholders:

CODESPA which is a non-profit making organization that has been working for more than 27 years in international cooperation for development, on this project it was the programme leader. The institution had 3 key roles in the project and these were provision of technical assistance, implementer and supervisor of the project.

In the provision of Technical Assistance, CODESPA performed the following tasks:

- Designed the market model which involved identification of gaps in supply, proposed a strategy to improve linkages between market actors and critical points to improve in the private businesses
- Designed the perception study and the customer understanding research
- Designed and produced the marketing tools after analysis of the data gathered
- Adapted and edited manual for local promoters and implementers
- Designed market information mechanism
- Designed comprehensive monitoring system to assess market trends and the effects of the project
- Assessed guidelines for training, and dealing with buyers, among others
- Designed the model to bring business development services, to integrate pigs and sanitation activities

As an implementer CODESPA was involved in the following:

- Provision of policy advocacy with PPC, AES and DARD at district and province level
- Provided capacity building process for HADEVA as the main implementer on the ground

As supervisor, CODESPA performed the following key activities:

15 Pig Raising For Income Opportunities: Strengthening the pig value chain for income generation & environmental management in Vietnam, Final Report, July 2013, Mid-Term Evaluation of CODESPA's pig raising program in Yen Bai province, Vietnam _ by Charlotte Ørnemark, International Team Leader, Ly Nguyen, National Expert, ThanhThuy, Research & Data-gathering, Ricardo Fernandez, Coordinator, Edition and Design

- Designed a database and M&E system for the project in collaboration with partners
- Conducted regular reviews and adjustments of M&E system to fit with different actors‟ information needs
- Provided quality assurance in project management and progress planning

Donor: AECID which is a Spanish Agency of International Cooperation for Development created in 1988 was the donor which financed most of CODESPA interventions in Vietnam, and providing technical support through its experts in Hanoi.

Field-Based Partners: Two institutions were responsible for the provision of field activities for the program and these were HADEVA and the Women's Union.

HADEVA is Cooperative for support and consultancy on agricultural development in Ha Hoa. It is a Vietnamese NGO whose activities are based on the frame of the Law of Cooperative of 2003. HADEVA is specialized in environmental and climate change fields. It was CODESPA's partner in charge of implementing and monitoring the project's activities, while collaborating with the other institutions of the consortium.

The Women's Union (WU) is a mass association institution which is a Semi-public body attached to the Communist Party. Its role in the project was to mobilize groups for the PRGs, and facilitate community outreach activities. The organizational network has 5 levels comprising the Central level, provinces, districts, communes and villages.

Other Key stakeholders:

- Animal Health Service is a public agency. Its role in the project was to set up the veterinarian network and to control the pork quality.

- Agricultural Extension Services is a public agency at district level. Its role was to provide technical training to the households for better pig rearing.

- People's Steering Committee is a Government of Vietnam institution at local level. Its role was to monitor implementation of activities and the markets at commune level.

- Multi-stakeholder consortium. The consortium was set up to facilitate implementation. It was composed of all key players and actors in project as local actors, implementing bodies, with the field-based NGO HADEVA which was contracted to implement the activities in the communities, and the Women's Union which was responsible for social outreach and mobilisation.

- Pig Raisers' Groups are a group formed by 25-40 pig raising households in the village; these groups were created and assessed by the project. The groups' members work together to improve their income opportunities through upgrading their technique and their skills for marketing

MAIN OBJECTIVES OF THE PROJECT

The overall objective of the program was "to reduce the rural poverty and the environmental impact of pig raising activities through the improvement of households' skills and the linkages between suppliers, farmers and buyers." The objective was achieved by strengthening the pig raising value chain through improved raising techniques and commercial linkages between input suppliers, pig raisers and sellers.

The project started in 12 communes and expanded its action to 22 communes by January 2012 its initial target was to reach up to 3,000 small-holders of 500 of them were to be extremely poor households in order to increase their incomes with €70/year and reduce the environmental impact of pig raising activities. The program however by end of 2014 (this year), changed the target number of

households to be reached from 3000 to 7500 pig producing households, of which up to 1500 households will be extremely poor households. CODESPA focuses on small scale pig producers. The project was implemented in Van Chan district in Vietnam.

MAIN UPGRADING ACTIVITIES EMPLOYED

The project implemented upgrading interventions in a number of broad areas such as rural marketing, training, supply chain development, and output market linkage. Among the key activities implemented included:

1. The project facilitated the formation of pig rearing interest groups. In each community selected for the first phase, CODESPA together with HADEVA and local authorities helped in the formation of groups undertook a needs assessment of the groups and their statutes elaboration in order to ensure there was an extensive and inclusive management in terms of profit distribution and tasks delivery. The groups were also supported with technical assistance on feeding, breeding, pigpens, feeding practices, manure management, and veterinary services. In addition to these planned project interventions in the pig industry, the project managed to diversify its intervention to the energy sector through introduction of improved stoves and biogas which came as bio-products pig rearing initiative.

2. Improved qualities of pig breeds through support to breeding farms, disease control and reduced mortality rate in pigs through the provision of timely, locally sourced veterinary services linked to government livestock services, Supporting the business plan development of local suppliers (e.g. feeding, medicines, masons), linking them to pig raising groups,

3. Improving the economic value of pig rearing for small-scale pig farmers, making sure they produce at profits, linking farmers to buyers, ensuring higher prices, better terms and better quality pork. At the beginning of the project, many farmers produced pigs at a loss due to expensive or poorly calculated inputs.

4. Analysis of the Input and Output markets and needs assessment for service delivery of the pig household farmers. The results lead to increased customer understanding, and identification of the marketing gaps including linking suppliers, farmers and buyers. The project also updated information about what specific services or inputs the pig farming households were accessing, and why. Such services included veterinary services, feeding, piglets, improved pigpens, and credit/loans among others.

5. Improved Rural Marketing of pigs: CODESPA improved the rural marketing of inputs for pigs and pigs for sell through the rural mass marketing and promotion strategy it designed in order to stimulate demand for pig services by farmers and improve access of affordable inputs to farmers.

6. Provided technical training to pig farming households, in order to ensure better management practices and the adequate usage of the inputs promoted by the rural marketing campaigns. The training activities were combined with trials/demonstrations on new products and services. It also used early adopters' strategy as a training and outreach tool to reach more farmers.

7. Increased technical skills were a key motivating factor for participation of pig rearing farmers in the project. Specifically the following skills training were s very important and relevant to pig farmers: feeding, food preparation, keeping a pig pen, vaccinations and waste management

8. Developed private sector capacity building and input supply chain. The activity was in response to farmers' demand for services and products. The project therefore strengthened an input supply network to provide services and products. The project recruited service providers into the supply chain network and created linkages between service providers and

farmers. The project supported these small-scale traders and entrepreneurs with a business plan and encouraged enterprise participation into the supply chain by inviting them to participate in the promotional activities to learn about the new raising techniques and see the potential of the business. When traders/entrepreneurs joined the network, the project provided them with technical training on pig rearing so that they can provide advice to pig producers.

HADEVA also received capacity building support in markets and signed a memorandum of understanding with the government Animal Health Services (AHS) to ensure that veterinaries for pig rearing received government certification for the skills they obtained so that they were included in the government livestock services.

The project targeted three types of suppliers in the supply chain development as specific target groups as follows:

(i) Private feed suppliers through strengthening the network of pig feeding suppliers, developing more reasonable credit terms for pig producers but also helped suppliers access bank loans in order to better meet the demand of pig producers.

(ii) Breeding farms for gilts, sows, boars and piglet supply by the project building a network of locally well-trained small-scale breeding farms that produced good quality sows and link these farms with pig producers.

(iii) Veterinary services. This involved the project strengthening a network of well-trained veterinary workers at the village level that provided suitable and affordable service to pig-producers as well as piglet producers (breeding farms). The projected promoted complete veterinary services packaged.

Provided Market Linkages through connecting pig producers with required quality to the markets, provided market information Pig Raising Groups (PRGs) at the same time, information about pigs produced by project participants and quality was provided to pig buyers local butchers, and pig meat producers and sellers.

The intervention strategy was designed to ensure the financial sustainability of the whole model due to its market-based nature beyond project implementation and donor support. The model encouraged the pig raising groups to invest in services and inputs for pig husbandry and the market would sustain the services.

The project model used evidence-based approach through rigorous monitoring and data-gathering involving pig raisers themselves in tracking their increased profits and using the PRGs to analyse their situation to maximize income gains.

PROJECT IMPACT

The project increased pig production. Some pig producers had managed to increase production from selling 1-2 pigs every six months to selling 3-5 pigs three times per year through increasing the number of foreign breeds held (F1 and particularly F2 pigs).

The project increased access by buyers of goat meat to healthier and leaner pigs because pig rearing groups increasingly made use of veterinary services and better raising techniques combined with use of more foreign breeds or cross-breed which were more attractive to the pig market.

The project provided business opportunity for local distributors because some of the pig rearing groups started buying improved pig raising inputs in bulk (such as feeding, stoves, and biogas technology).

The good results which were generated by the project among group members such as increased net incomes from quality pigs, and a higher survival rates for pigs resulted in new groups being formed in 7 out of 12 target communes in 2012.

The project every year from 2011 was adding in new communities and beneficiaries. For example in 2011, the project worked in 11 communities and 100 pig rearing groups were established and targeted 3000 households. In 2012, the project worked with 12 communities, 83 pig rearing groups formed, 3,056 households joined and 8002 vets (one per pig rearing group) had also been trained. By May 2013 the project continued working with the 12 old communities and added 10 new communities making a total of 22 pig communities. A total of 7,556 households comprised of 3,056 households in old intervention areas (communities) and 4,500 households from newly added communities were reached by end of 2013.

Increased incomes of the participating households which even exceeded the project target of €70 per year to an average of €112 per year. The project also generated extra income for vets of around €149 per year by mid-2013. The majority of these vets that were trained by the project did not have any income from vet services before the project.

PROJECT'S UPGRADING ACTIVITIES

The project managed to find innovative and low-cost solutions for upgrading small-scale pig farming from producing with no profit to actually growing a small business and integrating into local value chains.

The project applied almost all the generic upgrading areas of process, production, functioning, channel; institutional and intersectoral (figure 15).

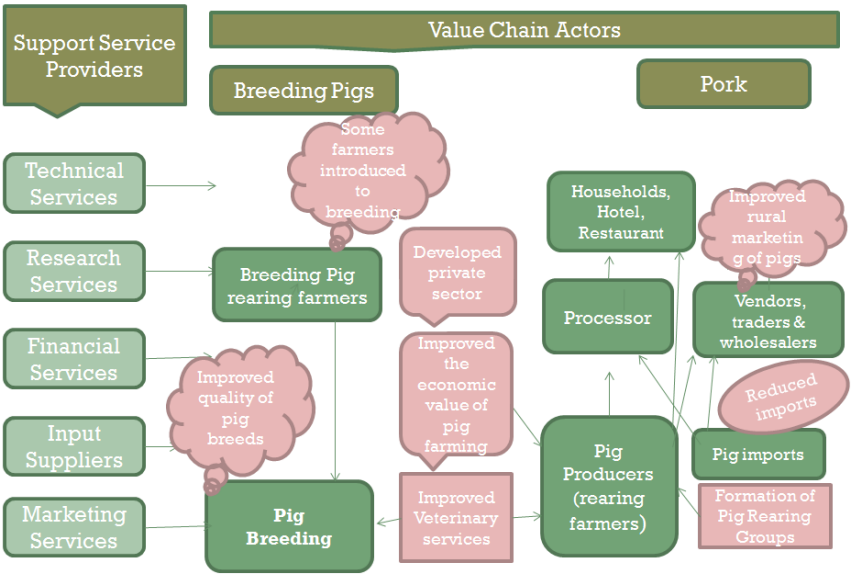
Process upgrading was achieved through increasing productivity and profits of pig enterprise through improving production efficiency by having goat breeding farmers and veterinary services within the communities. Product upgrading was achieved from improved qualities of pig breeds.

Institutional upgrading was achieved through forming pig rearing interest groups and working with various stakeholders to support the upgrading of pigs into a competitive pig enterprise. The groups were set up as informal associations, with their own statues, rights and responsibilities, executive board members and a designated veterinary assigned to the group. The key responsibility of the group was to deal with buyers for all its members through creation of vertical linkages with buyers. Members were also being encouraged to save one percent of additional profits from better prices to capitalize in the group and have an internal fund which assisted to develop horizontal relationships among its members. The pig farmers were also required to pay a fee per pig to the group which was used for vaccines and medicines against parasites, and other veterinary services provided.

The groups formed horizontal relationships among producer groups which provided the necessary scale to the groups to improve their bargaining power for better prices which was an important incentive for investment by farmers in upgrading.

Strong linkages facilitated the groups to upgrade by helping them to access assistance from supporting markets such as pig buyers, veterinary services such as vaccines and medicines against parasites.

Figure15: Upgraded Pig Value Chain



Functional upgrading was achieved through some pig farmers taking up new roles of breeding pigs and also providing veterinary services which previously they never did.

Process upgrading was achieved through reducing transport costs by establishing of large-scale state owned pig farms closer to areas of high consumption.

Intersectoral upgrading was also achieved through pig rearing farmers with technical assistance from the project were introduced to improved stoves and biogas which are in the energy sector and not the pig sector but an interlinkage was established through use of by-products from pig production.

Horizontal linkages with other industries enhance businesses potential. The project promoted other interventions in the energy sector such as biogas and cooking stoves supply chain which were previously not available pig rearing group members. The intervention had enabled pig farmers to access and install biogas. The stoves had greatly helped pig raising group members to reduce the amount of firewood used for cooking the pig food. The biogas technology reduced the workloads for women (with less needs for firewood).

Setting up of local self-organisation and use of local organisations in the delivery of services provided additional income to local service providers such as trained vets.

The contracting of a field implementer is very important in the early stages of a project. In the case of this project, the role of HADEVA was instrumental in linking local actors and coordinating initiatives, and sometimes even acting as intermediary distributor of pig raising inputs. For sustainability the role of HADEVA was to gradually get reduced and phased out with more responsibility handed over to local authorities.

Advocacy is an important intervention. The advocacy which was conducted by the project had aimed at institutionalizing policies and practices among the relevant public institutions (AES, AHS) that were involved in project implementation. Evidence and lessons gathered by the projects are also relevant for advocating for a more conducive policy framework for small-scale pigs. The project therefore facilitated policy upgrading at macro level.

Project implementers believed that upgraded and adapted small-scale pig rearing had great potential for poverty reduction and for connecting farmers to the value chain.

Annex 3: Market-led Quality Meat Production and Processing in Nepal

Project Overview

Goat is an important livestock kept for multipurpose uses such as meat, manure and skin in Nepal. They provide cash income for maintaining livelihoods in rural areas and they are primarily kept for meat as goat meat is socially acceptable to all meat eating ethnic groups in Nepal. Goat meat is more expensive type of meat in Nepal and prices increase every year with occasional swings. Nepal has four main indigenous breeds of goats; namely *Chyangra, Sinhal,* Khari and Terai because of different climatic conditions. The population of goats in Nepal is 8.47 million of which more than 85 percent of the population comprises of indigenous breeds. They annually grow at an average 3.31% from 2001 to 2008.

The local goat has a twining rate of around 50% giving, mortality is at 7 to 10 % and is aggravated by poor nutrition, stress during lactation and parasitic infestation.

Young male stocks are castrated at an early age and sold at around 18 to 24 months for slaughter at a weight of 15 to 20 kg live weight.

A goat sub-sector analysis baseline study done in 2008 revealed that goat production system in Nepal was increasingly moving towards subsistence mode because households who used to keep more than 20 goats in the past were keeping only 4 to 5 goats. Major reasons for reduced herd size identified were: reduced grazing opportunities because of expansion of community forestry, limited land for the poor to grow on farm fodder trees and forages for stall feeding, and goat programs were mainly run for poverty reduction rather than for commercial objective.

The baseline study also identified big opportunity for commercial goat farming through two aspects; a) improving profitability of goat farming and, b) high and unmet demand for both breeding goats and goat meat.

Other constraints identified in the goat value chain were lack of availability of breeding goats of known performance both at government and private resource centres/ farms, adoptability problems of imported breeds and lack of comprehensive goat breeding policy.

Constraints in live goat marketing for meat purpose included supply constraints, associated collection difficulties because of fragmented production, lack of specialized vehicles for goat transportation since the goats were being transported in bus roof tops, tax hassles in transportation particularly for imported goats, wholesalers' problem related with buying in cash and selling in credit contributed around 20% of delayed payments and as high as 5 percent unrecovered. Community Livestock Development Project recommended developing market information system so that farmers could better bargain with the traders since farmers were not organized.

Upgrading Opportunities

In terms of opportunities, the baseline study identified huge demand for goat distribution program in almost every region of the country and breeding goats fetching higher prices compared to meat purpose goats.

Government of Nepal then decided to give priority for improving the local breed through selection because it is regarded as providing better quality meat and the local breeds are more prolific. Realizing the importance of goats on poorer households, various organizations (government and nongovernmental organizations) worked together in promoting income generating goat program.

KEY STAKEHOLDERS

Several support service providers provided different types of services along the goat value chain in the following categories of services: technical services, financial services marketing services, input services and research services.

Input suppliers: Actors carrying out the function of input supplier are composed of farmers who raise goats and also produce feed; local agro vets, small veterinary drug shops which provide veterinary services, feed related services and other back stopping services. The agro-vets are mostly located within the municipality areas which it difficult for quicker access to them by farmers.

Technical Service providers: The DLSO provides training, technical backstopping services when needed by the farmers. The goat development firms provide breeding services by providing breeding buck, seed, saplings, and technical services such as deworming, vaccination, minerals supplementation and training pertaining to management of goats.

GOAT MARKETS IN NEPAL

Live Goat Marketing (Breeding and Meat Goat)

Goats are marketed live for meat and breeding purpose. Live goat for breeding purpose are procured by rearing farmers or the procurement committees formed by the farmers groups, Secondly they are procured by the agencies which distribute goats to farmers. There are no established markets for buying breeding buck and doe where one can buy or sale such animals. In most of the rural areas, buying and selling of breeding goats takes place through farmer to farmer.

In the government goat breeding improvement program, the breeding goats are purchased directly from farmers and distributed locally to the farmers. In other cases, breeding goats are also supplied to the farmers through government farms/ research stations, research outreach sites.

Goat selling prices are liberalised. The prices for breeding goats are normally higher than meat prices by about 25 percent. Some of the goat improvement organisations are emphasizing establishment of goat resource centres using the concept of 'farmers' managed community goat resource centres.

Live Goat Marketing for Meat

Live goat marketing for meat operates informally. There is no formal marketing for goats in Nepal. The market is largely traditional using various practices. In rural areas, goats are sold to consumers directly by farmers producing goats. Middlemen do not participate in the trade. In the district market centres and road side markets, the village traders and or butchers/ vendors are involved. Traders or butchers buy the goats from goat producing farmers and sell them to the consumers. In major markets of Kathmandu, Pokhara (terminal markets), there are multiple players in the market who also use different marketing models.

The farmers sell most of their goats to the local traders and the butchers who usually come to the villages for collecting goats. The butchers sell the goat meat in the local market and the nearby hat bazaar, while the local traders sell the goat to main markets in the districts, and to the big traders within the municipality area of the districts. Importation of goats also takes place in Nepal. The local traders import goats from India because of inadequate goat supply in Nepal. The imported goats are sold to the local butchers and big traders.

The major markets are local markets within the municipality area farmer selling directly in their village and the butchers sell goat meat in the hat bazaar.

Constraints of Live Goat Marketing

The constraints in live goat marketing for meat purpose include the following: (i) Supply constraints and associated collection difficulties because of scattered production, (ii) lack of specialized vehicles for goat transportation and high transportation costs in relation to other costs. Usually the goats were transported in bus Rooftops, (iii) Price bargaining system favour middlemen, (iv) Tax hassles in transportation particularly for imported goats, (v) Wholesalers' problem related with buying in cash and selling on credit which results in high default rate and delayed payments as high as 5 percent are never recovered.

Opportunities of the Nepal Goat Value Chain

The value chain analysis identified growing Demand for goat meat in Urban Areas as a result of the growing population, urbanization, growing income levels and a desire to shift consumption to quality animal products.

The market was working reasonably well and was competitive. Farmers were able to sell immediately, whatever, they produced and at prevailing market prices, with no evidence of excessive margins made by the Trade.

Improved Livelihoods as a result of income from goat farming by the landless poor resource farmers

Potential Niche Markets for goat meat in the sense that there were some consumers who preferred pasture-fed, very lean goat meat, with little fat cover and minimal marbling and off-skin meat.

Upgrading of the goat value chain through implementation of the Animal Slaughterhouse and Meat Inspection Act and its regulation which aimed at availing clean and hygienic meat to the consumers since 2000 was largely unsuccessful. Some of the provisions were difficult to observe for example-meat inspection regulation bans the use of skin as meat but the practice continues because of i) failure to effectively enforce the law, ii) skin price is much lower (less than half) of the meat price and iii) Nepalese consumers' prefer meat with goat skin.

Goat marketing study carried out by the Community Livestock Development Project recommended development of a market information system so that farmers could better bargain with the traders as they were not organized and access to marketing facilities and information were relatively much poor compared.

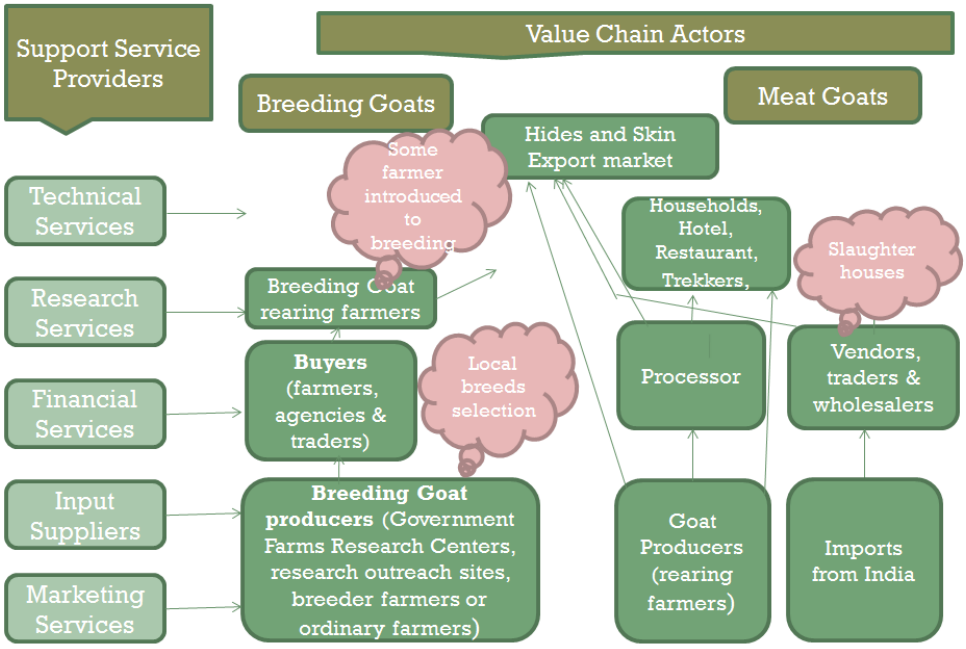
PROJECT IMPACT

Goat meat shops increased by 50 percent partly due to upgrading of the value chain through selection breeder goats but also increasing consumption of meat in urban areas every year which allowed for entry into the business of new entrepreneurs which resulted in sales volume per shop not increasing substantially but the number of meat shops were increasing.

PROJECT UPGRADING INTERVENTIONS

The project carried out upgrading in limited areas (figure 16). The project upgraded the goat value chain buy undertaking interventions which targeted process, production, functioning, institutional and intersectoral upgrading.

Figure 16 Upgraded Goat Value Chain



Process upgrading was achieved through increasing productivity of goats from having selection of local goats for breeding within the communities and implementation of the animal slaughter house. Production upgrading was achieved through selection of breeding goats.

Institutional upgrading was achieved through engagement of stakeholders and establishment of goat resource centres. Various organizations (government and nongovernmental organizations) worked together in promoting income generating goat program. The establishment of goat resource centres were managed using the concept of 'farmers' managed community goat resource centres'

Annex 4: The Case of Generating Employment and Income and Creating Wealth While Improving Nutrition Project in Kenya[16]

PROJECT OVERVIEW

The dairy industry is one of the important industries in Kenya. Out of the 13 million heard of cattle, 3.3 million are dairy animals[17]. The industry is dominated by smallholder milk producers with very few commercial producers though there more commercial producers are coming up. The total annual milk production for Kenya in 2007 was projected to be at 3.5billion with an average yield per cow at 564 kilograms per year[18]. The industry has registered some grown recently. The main contributing factor has been the increase in milk yield per cow. However Kenyan's milk yield remain significantly below international standards. South Africa and Argentina have yields ranging between 2,500 and 3,500 kilograms per year, while the USA stands at an average of 9,000 kilograms per year.

Smallholder farmers produce 70% of the marketed milk and 55% of all milk produced in the country is marketed, but only 20% of that marketed milk goes through the formal channels. Most of the processors are operating at 40% capacity because of low milk production. The total processing capacity is 900 million litres per day but only 1,000,000 (one million) litres are processed per day. There are over thirty registered processors in the country with Brookside, New KCC and SpinKnit as large processors which dominate the industry. The three processors together process over 80% of the formal market. They enjoy 10 to 20 % profit margins which are in line with international dairy industries.

Dairy milk imports have been reduced and exports have increased. Kenya exports milk, cream, butter and ghee to Zambia, Uganda, Tanzania and DRC while imports of milk especially powder milk comes from European countries and Eastern Africa.

Most smallholder dairy farmers operate at subsistence level, they do not take dairy farming as a business. Record keeping is a problem with smallholder farmers. Farmers lack the business skills for keeping financial records, calculate profit and loss. Most of them are also not aware of the benefits of supplementary feeding and good animal care in order to increase yields.

The main challenges of the dairy industry are the marketing of unregulated raw milk using informal systems. Another challenge is poor breeding practices and low quality genetic base.

USAID intervened along the dairy value chain in the following key areas: stakeholder organization and strengthening, input supply and services, training smallholder farmers to take dairy as a business, training and financing for milk transporters, and producer organisation development.

Stakeholder organization and strengthening interventions included policy research and reform, public-private partnerships development, building common interest groups among stakeholders for them to have a voice, and driving country ownership

Input supply and services interventions included market based access to veterinary services, improved dairy animals genetics, embed training and advise with input supply or cooling services as the private sector delivers the required inputs to dairy farmers, the private sector is equipped with knowledge to help dairy farmers on proper use of inputs. The interventions are focussed more on private sector than public sector .USAID also integrates ICT into services businesses for fast timely extension delivery and market linkage services.

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[16] Jyazman: Milk Value Chain, Generating Employment and Income and Creating Wealth while Improving Nutritionhttp://agrilinks.org/sites/default/files/resource/files/3.4%20Jim%20YazmanMilk%20value%20chain%20presentation%20for%20Bangkok%20Ag%20Core%20Course,%206.25.20

[17] The 2011 Situation Analysis of Dairy Value chain in Botswana

[18] The Daily Value Chain in Kenya, https://cgspace.cgiar.org/bitstream/handle/10568/2407/Dairy%20Value%20Chain%20Kenya%20Report.pdf;jsessionid=D09DEBFACCB60320F6B28B99BC725AB9?sequence=1

Training smallholders in "dairy as a business" is another area of intervention. Often, the majority of smallholder farmers take farming as a hobby and not business hence the training in dairy farming as a business.

Training and financing for milk transporters to upgrade their services. Upgrading is very expensive because of the requirement for investment in equipment while transporting milk to ensure quality. Such equipment requires financing and even the type of transport used requires upgrading. Normally the milk is transported on the head or bicycles which are not conducive for transporting large volumes of milk.

Producer organization development – The interventions include support for the development of the producer organisation and where it exists the support is to members of producer organisations. USAID support to members included supporting the owners with milk cooling and marketing services and access to training, services and input supply.

UPGRADING OF DAIRY VALUE CHAIN

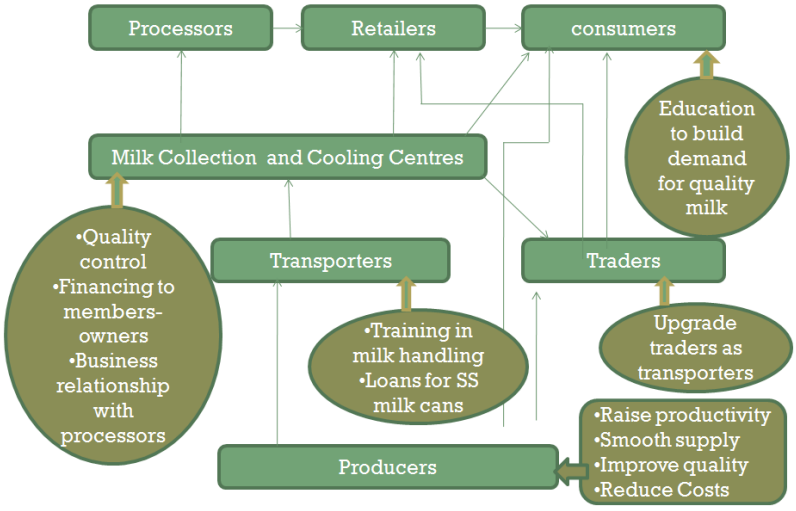
USAID's value chain upgrading activities were done on the following types of upgrading: process, production and institutional (figure 17).

Process upgrading by USAID involved upgrading trainers through providing them with training and loans for milk cans in order to improve quality of milk and reduce losses due to poor quality milk because of poor transport system and lack of good milk cans for transporting milk.

Production upgrading was done through raising productivity, supply of dairy animals, and reduction in costs and education of consumers on the benefits of milk in order to increase demand for quality milk.

Institutional upgrading was achieved through improving quality control, financing to producer organisations and milk collection and cooling centres.

Figure 17: Dairy Value Chain - Kenya



Source: Modified from Milk Value Chain, Generating Employment and Income and Creating Wealth while Improving Nutrition Project Report

OTHER OPPORTUNITIES FOR THE FARMERS IN INPUT MARKETS FOR DAIRY VALUE CHAIN

Apart from dairy farmers engaging in the production and sell of milk, the dairy farmers could also invest in input supply chain as service providers for forage seed, forage, dairy heifers, dairy beef, and transport services.

Forage seed: There is very high demand for forage seed. Forage seed is more expensive than food staple seed. It also gives high returns to skilled household labour, and global market.

Forage: Larger dairy farms are in high demand of forage because they cannot produce sufficient forage. Other farmers could sell as forage stovers and straws to dairy farmers

Dairy heifers: Dairy farmers after satisfying their own needs could venture into production of dairy heifers for sell to other interested dairy farmers. The dairy heifers also fetch higher prices than other types of cattle.

Dairy beef: Some dairy breeds such as Jersey crosses grow fast and produce quality beef.

Transport services: Transportation of milk pays higher returns to labour than producing and marketing it hence it would be a wealth investing in transport services.

Annex 5: Case Study: Technical Assistance Project for the Upgrading of the Ethiopian Leather and Leather Products[19]

PROJECT OVERVIEW

Cattle are an important livestock in Ethiopia. The population of cattle is about 53million cattle. Other livestock population are 25.5 million sheep and 22.7 million goats. The livestock are kept for various purposes and these are meat, milk and hides and skin. It is estimated that annually 3.7 million cattle hides are collected, followed by 8.4 million sheep skin and 7.7 million goat skin.

The leather industry supports a number of sectors such as the tanning sector, footwear sector. The tanning sector has 26 tannery industries in operation. These have a soaking capacity of 153,650 sheep and goat skin and 9,725 cowhides soaking capacity per day. In terms of employment, they altogether employ 4577 people. Most tanneries are working below capacity.

The footwear sector

The footwear sector has 13 large mechanized shoe industries operating. All shoe factories are located in Addis Ababa, with the exception of Sheba. The sector has a production capacity of about 10,000 pairs of shoes per day and employs between 60 to 900 employees.

Many companies operate below their capacity. The tanning and dressing of leather, luggage and handbag operate at 56% of production capacity while in 2007 another study reported a utilisation capacity of 48%. Most of the companies operate below capacity because of lack of raw materials, and lack of demand among others. However on the other hand the idle capacity utilisation is an opportunity for upgrading as long as the constraints are addressed.

Employment in the leather and leather products sector

Statistics indicated that the number of large and medium scale companies in the leather and leather products increased from 53 in 2000 to 114 in 2010 and the increased was more significant in 2009 and 2010.

Performance of the Leather Sector

The sector employees a total of 10,707 employees, it contributes about 6% of the total employment in the manufacturing sector of the country which is quite to low compared to the labour absorption capacity for the textile industry which takes up about 15% of the total manufacturing labour force. In general, the leather sector has a lower labour absorption capacity because tanning industries are capital intensive and employ less labour, the footwear industries are more labour intensive but are very limited.

Exports of the leather and leather products increased from 67 million USD to 104 million US$ between 2004/05 and 2010/11 but declined in 2009/10 because of the financial crisis and picked up in 2010/11. Most of the exports are to Europe and China with Europe in 2007/08 and 2008/09 taking up 70% the exports and Asia taking up 25% during the same period. Exports to America and Africa are very limited. The most important export destinations in 2008/09 were Italy (35%), Germany (19%) and China (15%).

[19]UNIDO project number: TE/ETH/08/008www.unido.org/fileadmin/user_media_upgrade/Resources/Evaluation/Ethiopia_leather_evaluation_FINAL_report_130208.pdf

Informal Leather Sector

Apart from the formal sector of the leather industry, the informal sector also exists in Ethiopia. It is mainly composed of MSMEs (micro and small/medium industries) most of whom are based in the 'Merkato' area in Addis Ababa.

Estimates indicate that there could be up to 40 units of medium scale producers, 75-100 units of small scale producers and 400-500 units of micro enterprises. They produce 12,000 pairs of shoes per day, which is matches the formal shoe industry. Formal shoe factories sometimes contract out certain steps or parts of their production to informal.

In 2006, there were one association called Ethio-Leather Association, and four cooperatives of footwear MSMEs in Merkato which were initiated by the sub-city MSE development agency. The Ethio-Leather Association had 792 footwear MSMEs as members. The four cooperatives comprised of 145 micro-producers of footwear. The cooperatives and the association merged and formed the Ethio-International Footwear Cluster Cooperative Society (EIFCCOS) which united the MSMEs of the sector under one umbrella. EIFCCOS has 1200 members, with 1000 of them producing footwear and the others operate in other parts of the value chain.

The aims of the Ethio- Leather Association were: to provide credit and savings services to the members, to gather support from the government particularly on the issue of infrastructural and financial problems that are prevalent in the Merkato Cluster, to facilitate capacity building activities in the areas of human resource and quality development, to develop efficient raw materials supply and marketing arrangements, and to develop market outreach and promote exportation of quality shoes to the sub- regional and the international market (UNIDO 2012).

Constraints of the leather and leather product industry

The Leather and Leather Product Industry (LLPI) faces a number of constraints along the value chain from animal husbandry to slaughtering, tanning, manufacturing, sourcing of inputs and marketing. Among the important constraints of the LLPI identified included shortage of hides and skins, shortage of finished leather, high content of imported inputs, lack of skilled labour in design and cutting, difficult access to export markets especially for shoes and low profit margins, competition with low cost shoe imports especially from China; lack of access to finance due to collateral requirement, high transaction cost, high interest rate and low credit ceilings; problems with power, water and transport services; and complicated customs procedures,

1. Shortage of quality hides and skins is considered to be one of the major reasons for the tanneries' low capacity utilization. The problem is caused by poor services along the value chain starting from animal husbandry which includes poor animal veterinary services, traditional ways of slaughtering animals, poor collection and handling of hides and skins at different levels. The country decided to address the problem by importing duty free hides and skins from abroad but the solution was not a sustainable solution because the exporting countries could decide not to export and develop their own leather industry.

2. Shortage of finished leather made the country to export low value addition semi-processed leather especially wet blue, pickle and crust which contributed to low export and caused shortage of finished leather availability in the local market. In order to address the situation the Government of Ethiopia in 2011 introduced 150% tax exports of semi processed leather with the intention of discouraging such exports. The impact of the policy was that the export of finished leather and leather prices for the local industries increased. The price of finished leather increased from 11 Birr per square foot in 2011 to more than 40 Birr in 2012.

3. High content of imported inputs used in the leather garment and footwear industries. The sectors use at least 40 different types of inputs but only five of these can be sourced locally. The high content of imported inputs is problem because sometimes the imports could delay to arrive but also bureaucratic procedures of the custom office could exacerbate the delay.

4. Lack of skilled labour is a major constraint of the sector especially in the design and cutting.

5. Difficult to access export markets and low profit margins in the shoe manufacturing sector. The sector often depends on brokers who provide linkages to buyers but keep the lion share of the benefits when a deal is concluded. Shoe manufacturers have low bargaining power.

6. Competition with low cost shoe imports from China makes the Ethiopian shoe market use less use of the shoe market in Ethiopia despite the market being of considerable and increasing size. Import competition is huge for lady's shoes because Ethiopian shoe manufacturers find it difficult to compete with the sophisticated and fast changing design of these shoes. As a result, Ethiopia's shoe industry import/export trade balance is negative.

7. Lack of access to finance is a problem because of collateral requirement, high transaction cost, high interest rate and low credit ceilings.

8. Poor physical infrastructure and complicated customs in terms of power, water and transport services are also among the problems affecting the leather industry including exports.

9. Low labour wages in the shoe sector while tanneries pay higher wages, lower the profit margins in the shoe industry and this leads to problems of the "working poor". The problem is contributes to increased labour mobility to other sectors and even labour shortage in the shoe industry.

The Project was implemented by UNIDO between 2009 and 2012 in cooperation with the Ministry of Trade and Industry (MoTI). The main purpose of the Project was to upgrade the leather and leather products industry through using the bench mark method to introduce the required changes. The Government of Ethiopia used the Central Leather Research Institute of India (CLRI) to implement the practical benchmarking method at company level.

KEY STAKEHOLDERS

The project had the following key stakeholders: Project Steering Committee, UNIDO, and Ethio-International Footwear Cluster Cooperative Society (EIFCCOS).

The Project Steering Committee role was to ensure project ownership at Government level. The role of the Ethio-International Footwear Cluster Cooperative Society (EIFCCOS), was to act as the leading association of MSMEs in the shoe sector while UNIDO was the project implementer.

PROJECT UPGRADING INTERVENTION

The leather Industry required a multi-front approach to intervention hence the project adopted a comprehensive and "systemic" approach, and policy interventions in order to improve the industry's competitiveness.

The project implemented the following intervention components: capacity building, development of the Shoe Industry, improving production, and Product Development and Marketing

Capacity building involved building the capacity of the national leather institute (LIDI) on a continuous basis through several ways such as assistance to laboratory accreditation which enabled LIDI to provide quality tests for the industry with the result of facilitating exports. The project also built capacity at LIDI's marketing Directorate by transferring skills on how to conduct marketing studies, and provided support to LIDI's Communication Directorate by developing the LIDI website.

The project developed the Shoe Industry through provision of multidisciplinary support to a number of pilot factories in the shoe industry and large numbers of Micro and Small/Medium Enterprises (MSMEs), which make up half of Ethiopia's shoe production. Many of the MSMEs are in the informal sector.

The project improved production through providing technical benchmarking, and promotion of innovative tools and methods for supply chain management. A pilot activity at one of the shoe factories tested Enterprise Resource Planning system (ERP) innovation that is widely used in Italian shoe factories. The outcome demonstrated that the technology was not quite appropriate under the given circumstances: hence up scaling the experience to other companies was not done. The experience helped the project to change strategy and to use less sophisticated Open Source software that allowed for a more step-by-step implementation approach. As a result of the success after changing the strategy, interventions were up-scaled.

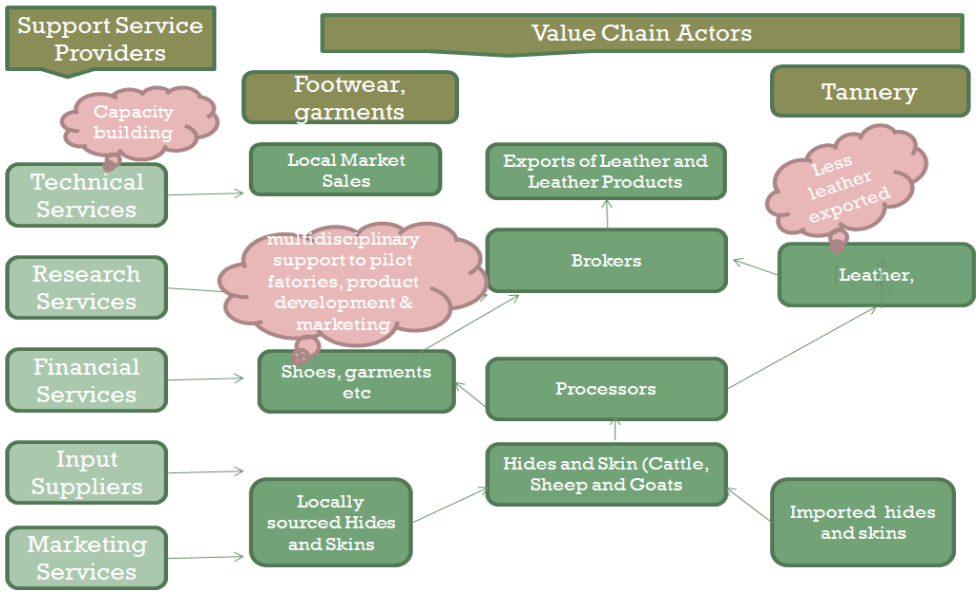
The project achieved product development and marketing through introduction of new products and quality assurance, creation of exposure to international markets and improving the management and marketing operations of firms. The project also developed new collections and facilitated participation of LIDI and selected enterprises in international fairs.

Implementation strategy of the project focused on selected factories and the LIDI. Technical assistance using several experts and transferring of skills in different areas of operation were provided and market intervention encourage firms to adopt more aggressive marketing methods as a condition to enter international and national markets. Building on the "*Taytu - Made in Ethiopia*" initiative the marketing experts of the Project developed brands and other promotional tools for a number of factories.

UPGRADING ACTIVITIES

The project helped upgrade the leather industry at process, production, institutional levels

Figure 18: Upgrading of Leather Value Chain, Ethiopia



PROJECT IMPACT

The project achieved productivity gains in some companies, and increased product collections. The project made plausible contributions to the increase of leather and leather products exports from USD 67 million in 2004/05 to USD 104 million in 2010/11. The project made exports to shift from raw material exports to exports of finished leather, shoes and leather goods. Project efforts' to assist selected tanneries with improving their finishing techniques made additional contributions.