Scanning of the livestock sector for the identification of investment opportunities in Uganda

Client: Embassy of the Kingdom of the Netherlands in Uganda

Draft Report

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Map of Uganda

Acknowledgement:

Abbreviations and Acronyms:

AECF	Africa Enterprise Challenge Fund
AFC	Agricultural Finance Facility
AfDB	African Development Bank
AGRA	Alliance for a Green Revolution in Africa
AI	Artificial Insemination
AU	African Union
AUSAID	Australian Agency for International Development
BOU	Bank of Uganda
BSE	Bovine Spongiform Encephalopathy
CAO	Chief Administrative Officer (in the District)
COMESA	Common Market for Eastern and Southern Africa
DANIDA	Danish International Development Agency
DAR	Directorate of Animal Resources (of MAAIF)
DCZ	Disease Controlled Zone
DDA	Dairy Development Authority
DFCU	Development Finance Company Uganda
DFID	Department for International Development (UK)
DFZ	Disease Free Zone
DRC	Democratic Republic of Congo
DSIP	Development Strategy and Investment Plan
DVO	District Veterinary Officer
EADD	East Africa dairy Development
ECF	East Coast Fever
EKN	Embassy of the Kingdom of the Netherlands (in Uganda)
EU	European Union
FAO	Food and Agriculture Organisation of United Nations
FI	Financial Institution
FMD	Foot and Mouth Disease
FMO	Nederlandse Financieringsmaatschapppij voor Ontwikkelingslanden
GBK	GBK Dairy Products (U) Ltd
GDP	Gross Domestic product
GoU	Government of Uganda
HPAI	Highly Pathogenic Avian Influenza
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ILRI	International Livestock Research Institute
KFW	Kreditanstalt für Wiederaufbau
LC	Local Council
LG	Local Government
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MCC	Milk Collection Centre
MFI	Micro Finance Institution
MOFPED	Ministry of Finance Planning and Economic Development

MOLG	Ministry of Local Government
MPMPS	Meat Production Master Plan Study
NAADS	National Agriculture Advisory Services
NAGRIC	National Animal Genetic Resource Centre and Databank
NARO	National Agricultural Research Organisation
NCD	New Castle Disease (or ND)
NDA	National Drug Authority
NDPAS	National Drug Policy and Authority Statue
NDS	National Dairy Strategy (2011-2015)
NGO	Non-Governmental Organisation
PEAP	Poverty Eradication Action Plan
PFI	Participating Financial Institution
PMA	Plan for the Modernization of Agriculture
PRSP	Poverty Reduction Strategy Programme
RVF	Rift Valley Fever
SACCO	Saving and Credit Cooperative Organisation
SALL	Sameer Agriculture & Livestock Ltd.
SCC	Swedish Cooperative Centre
SIDA	Swedish International Development Cooperation Agency
TAD	Trans-boundary Animal Disease
TBT	Technical Barriers to Trade
UBOS	Uganda Bureau of Statistics
UBPA	Uganda Beef Producers Association
UCA	Uganda Cooperative Alliance
UCCCU	Uganda Crane Creameries Cooperative Union
UCCFS	Uganda Central Co-operative Financial Services LTD
UGS	Uganda Shilling
UHT	Ultra High Temperature
UNBS	Uganda National Bureau of Standards
UNDP	United Nations Development Programme
US$	United States Dollars (taken at 2500 UGS/US$)
USAID	United States Agency for International Development
VC	Value Chain
VCA	Value Chain Analysis
VCF	Value Chain Financing
WB	World Bank
WHO	World Health Organization

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Executive Summary

The purpose of this study is to analyze the livestock sector to identify potential investment opportunities. Commissioned by the Netherlands Embassy (EKN) in Uganda, the study support's EKN's policy is to stimulate food security and economic diplomacy in Uganda. It is expected that the study will be valuable and informative to potential investors and other actors interested in supporting the development of the livestock sector in Uganda.

The study, executed by a team of 4 consultants over a three month period, was carried out in a two pronged approach: (i) through extensive desk research of existing literature from diverse and reputable sources and (ii) through extensive field research and key informant interviews (with active business leaders in livestock, sector experts, government officers, regulatory bodies, association and union leaders, and Non-Government Organization (NGO) officials among others.

Importance of the livestock sector in Uganda.

The livestock sector in Uganda is significant in importance to the agricultural sector and to the wider economy. It contributes 5 percent to the National GDP and 13 percent to agricultural GDP. The sector has also continued to deliver steady growth - about 3 percent per annum - even as the total agricultural sector growth has slowed. The sector comprises cattle, poultry, pigs, goats and sheep. Total livestock population is estimated at 12.8 million cattle, 42 million chickens, 3.6 million pigs, 4 million goats and 3.8 million sheep. It is estimated that 4.5 million households (70.8%) rear at least one kind of livestock.

Focus of this study

This study focuses on the (i) dairy (ii) beef and (iii) poultry (chicken) sub sectors. These were identified as most suitable for investment as all subsectors have a mismatch between demand and supply. Next to this for each subsectors the following reasons apply: ***Dairy***- Government has identified milk as one of the 10 commodities of focus for the accelerated development of the agricultural sector. From a livelihoods perspective, the sector provides perhaps the one commodity – milk – that is available most of the year as a source of income for the rural poor. The dairy sector is already a specific area of interest for several stakeholders, (including EKN, aBi Trust and Agriterra among others). ***Beef-*** the beef sector is identified as the most vibrant meat sector in Uganda, with the highest per capita consumption, of all meats and with the highest potential for local and regional growth in demand. ***Poultry***- the chicken sector is identified because of its attractiveness in terms of its quick turnaround times (shorter production cycles); lower capital investment requirements, and generally its suitability as a business venture for thousands of smallholder Ugandan households. The piggery sector has been considered but found to be too risky for investment due to the endemic presence of African swine fever in Uganda. Goats and Sheep have limited investment potential in view of .

Uganda has an attractive investment climate for local and foreign direct investment (FDI)

Uganda's investment environment is attractive and underpinned by a robust and fast growing economy- averaging 6-7 percent GDP growth over the past 10 years. This healthy economic environment is attributed to government's broadly liberal economic policy approach that has promoted the growth of a free market economy. The country for a long time enjoyed a low level of inflation and stable and investor friendly interest rates that are attractive for investment.

Uganda, according to the Uganda Investment Authority, has consistently attracted the highest levels of foreign direct investment (FDI) in the East Africa Community region over the past five years, attracting US$ 848 million worth of FDI in 2010, an achievement largely attributed to government's strong commitment to promoting private sector development. Other key drivers for Uganda's attractiveness for business investment include the predictable investment environment, the fully liberalized economy, and access to a big and growing regional market

Government of Uganda has acted aggressively to establish a conducive environment for investment through several policies and strategies, most recently as articulated in the 2010-2015 National Development Plan, which has a strong and clear focus on economic growth and private sector development. Various more specific sectoral approaches that promote local and FDI have been outlined in several strategic and policy documents including: the National Trade Policy, the National Export Strategy, the Competitiveness and Investment Climate Strategy (CICS), and the Development Strategy and Investment Plan 2010-2015- which highlights the strategic direction for agricultural development with a specific focus on improving the performance of key commodities including the dairy sub sector.

Business and trade from Uganda stands to benefit from existing and growing regional and international trade opportunities. Uganda is a member of the regional COMESA and EAC. At an international level, Uganda has tariff free access to the European Community market as well as favourable access to the American market through the African Growth and Opportunities Act (AGOA). The competitive business environment has improved in recent years as measured by the World Bank, doing business survey in which Uganda ranked 122nd out of 183 countries, up 7 places from its previous position in 2010.

Main Challenges to competitiveness

The major challenges constraining Uganda's competitiveness include: the inadequate and expensive costs of electricity- although this has to a great extent been improved by the recently commissioned 250 MW Bujagali dam; the shortage of skilled manpower; the weak legal and regulatory framework which is compounded by poor level of enforcement; the endemic and widespread corruption- although increasingly positive trends are emerging in the fight against corruption; and the extremely limited access to financial services for most Ugandans, particularly small to medium sized business enterprises.

Access to finance

More Ugandans have access to financial services: the 2010 FinScope report on Uganda concludes that 70 percent of Ugandans are financially served, a good growth over 2006 where the level of financial inclusion stood at 57 percent for the 18+ years population. Financial services in Uganda are accessed through (i) formal- including banks, credit institutions and microfinance institutions and (ii) informal channels- such as village savings and loans schemes (VSLA's).

Limited use of formal (Banking Services): The use of formal financial services remains limited with only about 20 percent of the population having bank accounts and therefore being able to save in a bank or acquire a bank loan. The majority (42%) of Ugandans rely in the informal financial services channels. 30 percent of Ugandans are financially excluded and rely primarily on family and friends for their borrowings, and on their 'secret hiding places' for their savings.

Lending to agriculture businesses is still limited: Finance for agribusinesses remains limited with only 7 percent of total lending by financial institutions being allocated to agriculture. This lending is dominated by commercial banks (94%), followed by microfinance and credit institutions (6%). This low level of lending for agriculture related enterprises reflects the high levels of risk still associated with financing investments in agriculture in Uganda. As such, access to finance remains a key constraint to increased competitiveness of agribusinesses.

Expanding agri-financing to the livestock sector: there are already successful efforts by SACCO's, MFI's and banks in the provision of short term loans for livestock enterprises. There is however low willingness by these finance providers to offer investment finance to the small farmers and cooperatives, primarily because of the risk associated with farming enterprises.

Attractive Credit facilities to financial institutions such as the Agricultural Credit Facility (ACF) of Bank of Uganda could stimulate long-term lending to the agricultural sector by increasing the resources available for lending to the agricultural sector.

Also **credit guarantee schemes** such as those developed between donors and NGO's like AGRA and Kilimo Trust on the one hand and financial institutions such as Stanbic Bank on the other could be scaled out further. These reduce the risks to the financial institutions and increase their appetite to provide loans to small scale farmers.

Financing the 'missing middle'- that group of businesses that are too small for commercial loans, and yet too big for microfinance remains a challenge. Increasing the availability of equity financing will accelerate the financial inclusion of this category. Some of the emerging Venture capital funds providing equity financing include: Africa Agriculture and Trade Investment Fund (AATIF), Agri-Vie Agribusiness Fund, Annona Sustainable Investment Fund and Voxtra East Africa Agribusiness Fund.

Key sub sector findings

i. **Dairy:**

A fast growing sector: The dairy sector is growing at an annual rate of 8-10 percent per annum. This growth is even faster within the processed milk category, estimated at about 11 percent per annum. Growth is driven by a robust and unfulfilled level of demand for milk products in the country and the region. The per capita consumption of milk products is a mere 58 litres/person/year, far lower than the 100 litres/person/year in neighbouring Kenya or the 200 litres/person/year recommended by FAO. The market has the potential to consume more milk.

The formal and informal segments are both important in the subsector: 70 percent of all milk produced is offered for sale to the market, and this amounts to 1.3 billion litres projected for 2012. This milk is retailed to the consumer through two different and distinct segments: (i) the formal and (ii) the informal segments. The formal segment deals with the processed milk, and includes various products such as: pasteurized milk, UHT, yoghurt, Ice creams, powder milk and cheeses. The informal sector on the other hand deals primarily with the sale of raw milk.

Important developments in the informal segment: The informal segment has traditionally been characterized by minimal processing, but increasingly informal segment actors are regularizing their businesses through registration of limited liability companies, licensing and adopting the use of appropriate technologies. The informal segment is massive- and is where up to 90 percent of all the milk is traded. It is of such significance and size because it provides a need that the formal segment cannot- ensuring that milk is readily available and cheap, thereby meeting the needs of most low income households.

There are hundreds of homestead and backyard processors of various products including ghee, cheese, and chilled raw milk. There is however a growing number of cottage industry actors that have formalized their status and an estimated 35 are now registered with the Dairy Development Authority (DDA). These actors who are increasingly adopting appropriate technology present extremely attractive opportunities for trade

Export potential: The export market for milk exists, but is constrained by low level of supply. Only 12 million litres of UHT- the primary milk export product - were exported in 2011, amounting to only 10 percent of all processed milk. The main regional export markets are Kenya, Democratic Republic of Congo, Southern Sudan, and Tanzania. The biggest milk processor, Sameer Agricultural and Livestock Limited (SALL), claims to have existing markets in 17

countries, but is constrained by low supply in servicing these countries. Informal export trade goes on across all borders of Uganda.

The main milk production areas: For the purposes of measuring milk supply, the country has been divided into a number of "milk sheds" including: (i) the South West (ii) the Midwest (iii) Central (iv) Eastern (v) Northern and (vi) Karamoja (Northeast). The southwest and central regions together produce almost 50 percent of the 1.8 billion litres of milk produced (as at 2012) - and together with the Midwest are considered milk surplus regions. The Eastern and Northern regions do not produce enough milk relative to their level of consumption and are considered milk deficit regions. Karamoja produces the least amount of milk, which is all consumed within the region.

Improved dairy breeds and MCC's required drivers of growth: The high supply performance of the Southwest and Central regions is largely attributed to the higher presence of improved local and exotic dairy breeds, and particularly in the case of the South west, the extensive cold chain infrastructure of milk collection centres (MCC's) that have been set up (MCC's in Southwest: 69%, Central: 12%, Midwest 12%, North 3% and East 3%). The low level of MCC infrastructure is one of the biggest constraints to the increased competitiveness of the dairy value chain.

Key actors in the dairy value chain: Key Actors in the dairy value chain include the (i) large scale processors, (ii) the small processors/cottage industry (iii) transport chain actors (iv) farmers, and (v) regulators among others. There are 13 registered processors with a combined capacity of 821,000 litres per day. Six of these are large scale operators and the rest are mini dairies. Most factories operate significantly below capacity- although there is an increasing trend in capacity utilization –now at about 68 percent.

SALL significantly influences the industry: SALL is the biggest and most influential processor, with installed capacity of 550,000 litres, with the biggest fleet of transportation tankers and MCC's. SALL as a result influences all the activity in the market particularly the retail price and the farm gate price.

JESA demonstrates that the integrated model works: Jesa the other processor worth to mentoin as it has a 40,000 litre a day processing facility, which is supplied over 50 percent from an own dairy farm. With many years of successful operation, Jesa demonstrates that an integrated dairy farm/Processing model can be successful. Jesa commands a sizeable portion of the Kampala processed milk market, and is able to offer premium prices to its growing out grower dairy farmers.

Types of dairy products, upcoming new products and consumer markets: 80 percent of all processing activity is applied towards the manufacture of pasteurized milk, followed by yoghurt production. Only 5 processors have the capacity to produce UHT milk, and only SALL has a milk powder plant currently- although a new milk powder plant is currently under construction in the Southwest.

Increasing growth in milk production, the role of small farmers: Dairy farmers are largely small holder farmers. Many produce for home consumption and only offer the available surplus to the market. Most rely on the traditional indigenous herd, known to have very low productivity. Increasingly however cross breeding of local breeds with especially the Friesian, has led to increasing productivity particularly in the Southwest, Midwest and Central regions.. This explains to a great extent the high growth in milk production (8-10%) relative to growth in cattle population (3%). Another promising feature of the farmer landscape is the increasing involvement of women. Increasingly women are being supported through NGO and government efforts to own pure diary breeds managed on zero grazing units. This is appropriate especially for such farmers who often have small landholdings.

Farmers becoming more organized: Farmer organisation under associations and cooperatives is a significant feature in the highly successful milk sheds. Farmers in the South-west milk shed are organized into a very well structured cooperative union registered at the national level. The impact and benefits of this are clear. Not only are they ably accessing good markets, they have grown strong enough to develop plans to set up their own dairy processing plant. It is also easier for such farmers to receive appropriate support from national and international development actors. The success of UCCCU, the successful cooperative union in the South-west, is yet to be properly replicated in other regions.

There is an existing and effective regulatory process, with the DDA set up as a semi-autonomous body responsible for the regulation, coordination and harmonization of the dairy sector.

Main constraints in the dairy sector performance: A summary of the constraints to increased dairy value chain performance and competitiveness are:

1. Low animal productivity due to low genetic potential, poor feeding and animal health
2. Low adoption of improved management practices and technologies
3. Infrastructure for collection, storage and chilling of milk is extremely limited across the entire country.
4. Limited incentives for small holders and loose milk traders to participated in the formal segment.
5. Unavailability and inaccessibility of essential services including: extension services, financial services, input supply, and business development services.
6. Young associations and cooperative movement.
7. Lack of specialized animal breeders while national body NAGRIC is severely incapacitated.

Where are the investment opportunities in the diary sector?

The Windows of Opportunity sighted for the diary Sector include the following:

1. Investment in Milk Collection Centres
2. Investment in Supply Milk Tankers
3. Investment in unpackaged pasteurized milk distribution system
4. Upgrade of Informal Actors into Mini Dairies
5. Upgrade of existing dairy plants
6. Investment in Integrated farming/processing dairy business
7. Investment in transportation tanker cleaning facility.

ii. Beef:

Increasing strong demand: The per capita consumption of Beef in Uganda is just 6kg/person/year, a level much lower than other African countries such as Kenya and South Africa at 12 and 14 kg/person/year respectively. The national consumption level of beef is estimated at 230,000 tonnes or about 2 million animals slaughtered. Demand is growing ahead of supply. Key demand drivers for beef include: increasing urbanization, increasing purchasing power, changes in consumption habits, and the fast rate of population growth. Supply on the other hand is severely constrained by the current beef production system- largely subsistence and primarily of the slow maturing indigenous breeds, with a very slow transition to commercial production.

Market is characterized by 'mainstream' and 'premium' segments: At the retail level, **the mainstream market** in Uganda is to the greatest extent serviced by the wide network of roadside and market stall butcheries. These are estimated at between 5000-7000 in number and account for 75-80 percent of all beef sales in the country. The premium market accounts for about 16 percent of the total meat market (in Kampala), and is served by a growing

network of modern butcheries and supermarket butcher stands. The demand and consumption level of beef in Kampala is estimated at about 15,500 tonnes annually. (7% of national meat consumption). The premium beef segment accounts for about 16 percent of the total meat market in Kampala (about 2500 tonnes) and is serviced by a growing network of Modern Butcheries and Supermarket Butcher stands.

Export Potential for beef is limited to regional markets, not developed markets: Export opportunities of live animals and meat products are limited because of the prevalence of diseases, a lack of an export standard abattoir and the high demand of the national market. Exports to highly developed markets remain unfeasible for the foreseeable future, although potential exists for export to neighbouring countries. Uganda enjoys a comparative competitive advantage as a low cost producer in the region. Southern Sudan is emerging as a major destination for Uganda's meat products

Beef supply is dominated by low productive indigenous breeds: Supply of beef in Uganda is largely reliant on indigenous cattle genotypes raised under extensive management systems. The inherent features of indigenous livestock are survival rather than productivity, hence their small body size. Factors such as disease, inadequate nutrition and water scarcity coupled with low body size and low milk yield means that indigenous animals grow slowly and often attain market weights at 5 years of age or more. Most slaughtered animals are culled animals. Improved cattle breeds are kept under intensive management, mostly on small scale and medium sized ranches. Beef breeds of commercial producers are Boran, Bonsmara, Brahman and crosses.

Key Actors in the Value Chain: Actors in the beef value chain include processors, abattoirs, butchers, traders, village markets and farmers among others. Formal meat processing is a near monopoly with a single company Fresh/Quality Cuts dominating the market for packaged retail cuts and processed beef. This company commands about 85 percent of Kampala's processed meat market. Processing companies claim to be undersupplied with beef and all other meat carcasses. Fresh/Quality Cuts experiences on average, a daily shortfall of 3 tonnes of beef.

Roadside and market stall butcheries will remain the key retail outlet for beef: Roadside and market stall butcheries account for 75-80 percent of all retailed meat, and are the backbone of the meat supply chain. These lack cooling facilities and therefore only stock meat that can be sold within the day. Processing by these butcheries is minimal, and there is unhygienic handling of meat at this level. Modern butcheries and supermarket butcher stands meet a higher standard of hygiene and food safety and cater for the premium segment of the meat market. There is use of standard equipment, such as displays, and freezers. A range of processed meats and products is made available. Prices are at a steep premium to mainstream market prices.

Current slaughter models have created capacity constraints, low margins and are hygienically deficient: Kampala is serviced by three slaughter houses. The increasing rate of urbanization has resulted into the overstraining of these slaughter houses- for instance City Abattoir Ltd- with a daily throughput of 250-300 animals against an installed capacity of 100-150 animals. Abattoirs slaughter animals for a fee of about 15,000 UGS ($6). This fee delivers relatively low margins (about 1%) and would seem not to justify an investment in a modern stand-alone abattoir. The extremely low level of hygiene is a common feature across all slaughterhouses. There is potential for an export grade abattoir combined with processing facilities, as this would service a robust local market (including hotels and fine dining establishments) as well as meet an existing and growing regional demand for premium beef.

Subsistence farming still predominant: At the farm level, most cattle sales are related to household cash needs. Maximization of returns by small holder farmers is low due to low genetic potential of the indigenous breeds coupled with inadequate management capacity. There are emerging trends- especially through collective action- towards cattle fattening, and this is providing opportunities to significantly improve farm level profitability of

smallholders. Women can particularly benefit from such activities especially in areas where women groups can establish animal fattening.

Scope for growth in ranching: There are about 165 large ranches which account for a mere 2 percent of total cattle production. Ranch productivity is extremely low and it is characterized to the greatest extent by absentee ownership. The largest ranches are up to 25,000 ha and have up to 7,000 cattle with a capacity to increase numbers substantially. The Boran is still the most popular imported beef breed in Uganda especially for the commercial ranching sector.

Main constraints in the beef sector competitiveness:

A summary of the constraints to increased beef value chain competitiveness are:

1. Low animal productivity due to low genetic potential and poor management practices.
2. Endemic disease due to breakdown of communal dip tank infrastructure, and timing of availability of vaccines at the districts.
3. Inadequate feeding due to dependence on low quality natural pastures.
4. Inadequate infrastructure for livestock markets, abattoirs and Dip tanks
5. Non-existent cattle fattening culture or infrastructure- feedlots
6. Constraints in breeding: lack of improved bulls, inappropriate AI services and lack of on farm herd books for animal event recording (births, deaths). Costs of hybrid breeding bulls are quite high, with Boran Bulls being imported from neighbouring Kenya for 5 million UGS to 7.5 million UGS (2,000 US$ to 3,000 US$). Local Boran Bulls are being sold for between 2.5 – 3 million UGS (1,000 US$ to 1,200 US$) at about 8 months

Where are the investment opportunities in the beef sector?

The Windows of Opportunity sighted for the beef sector include the following:

1. Investment in a combined abattoir and processing facility
2. Investment in commercial ranching
3. Investment in commercial feedlot
4. Investment in butcher equipment
5. Investment in Improved breeding services

iii. Poultry (Chicken):

Chicken is dominant poultry type: Chickens account for 95 percent of all poultry reared in Uganda.. There are two distinct chicken breeds: (i) 'Local' indigenous and (ii) exotic breeds. Total chicken population is estimated at about 40 million birds, with local indigenous chickens accounting for almost 90 percent of total population.

Strong and growing demand: The demand for chicken is growing at about 3 percent per annum. 48,750 tonnes of chicken meat were produced in 2011, translating into a per capita consumption of about 1.7 kg/person/year as compared to South Africa at 32Kg/person/year. The demand for chicken eggs is at 491 million eggs, translating to a per capita consumption of only 4/person/year versus 145/person/year for South Africa, also pointing towards untapped consumption potential.

High market price of chicken is a key barrier to increased demand: Chicken meat is expensive. It is sold at a premium to most other protein sources including fish, beef and beans. Unlocking significant latent demand will

continue to be constrained by this high pricing, which has positioned chicken very much as a luxury good, only to be considered on special occasions. Nevertheless, Chicken meat demand- (particularly dressed chicken) will continue its steady growth driven by: increased urbanization and more people living in apartments (unable to rear own chicken), the growth of the supermarket space, and growth of fast food eateries, among others.

Export opportunities for chicken are minimal: There are only minimal exports of chicken products currently, as most regional economies seek to protect their emerging poultry sectors. However records from MAAIF indicate on-going exports to DRC, Southern Sudan, Rwanda and Burundi. However, the export of day old chicks remains a common feature particularly to Rwanda, which has a big gap in the local production of day old chicks.

Growing supply of exotic chicken: chicken are raised in all parts of the country, but the highest concentration of exotic chicken is found around central Uganda area, particularly in Kampala and the neighbouring Wakiso and Mukono districts. Households have traditionally played the role of chicken rearing, but the supply of exotic chicken is now dominated by commercial producers. The commercial farmers are categorized into 3 broad categories (small, medium and large scale units) depending on capacity and level of mechanization. The majority of exotic chicken today are reared under commercial systems.

Unique attributes of poultry sector: Poultry requires less land than crop agriculture and other livestock enterprises, which is particularly beneficial for peri-urban and urban commercial farmers, it also requires relatively small levels of capital investment while offering a higher feed conversion rate than any other livestock, making it an attractive investment for small scale households

Main constraints in the poultry sector competitiveness:
The key constraints to increased poultry competitiveness are:

1. The high cost of animal feeds of inconsistent quality
2. The lack of consistent supply of quality day old chicks

Where are the investment opportunities in the poultry sector?
The windows of opportunity sighted for the Poultry sector include the following:

1. Establishment of hatchery
2. Establishment of commercial poultry farm
3. Establishment of chicken slaughter and processing facility
4. Establishment of animal feed processing plant.

1) Introduction

1.1 Background

1.1.1 Objective of the Livestock Study

This study was commissioned by the Netherlands Embassy in Uganda (EKN), in March 2012, with the objective of assessing the livestock sector to identify potential investment opportunities. This also to support EKN's policies to stimulate food security and economic diplomacy as envisaged in their strategy for 2012-2015. It is expected that the study will be valuable and informative to potential investors and other actors interested in supporting the development of the livestock sector in Uganda

1.1.2 Methodology

The study, executed by Agriterra by a team of 4 consultants[1] over a three month period (March-May 2012), was carried out in a two pronged approach: (i) through extensive desk research of existing literature from diverse and reputable sources and (ii) through extensive field research and key informant interviews with active business leaders in livestock sector, government officers, regulatory bodies, association and union leaders, and NGO officials among others.

In keeping with the terms of reference, this study provides critical analysis of 6 areas: (i) demand (ii) supply and (iii) key actor analysis for all identified value chains, as well as (iv) investment and political-economic analysis of Uganda, (v) the level of access to finance and (vi) lessons from past and on-going projects in the livestock sector. On the basis of the above analysis various investment opportunities in the livestock sector were then identified.

1.2 Background on Uganda

Uganda is a landlocked country in East Africa, lying on a total of 241,551 square kilometres, 17 percent of which is lakes and wetlands. Aptly crowned the Pearl of Africa[2], Uganda is truly blessed with fertile soils and a conducive climate that gives it a strategic and competitive advantage as a food basket for its own people and for the region. The country has a population of about 35 million Ugandans- 85 percent of whom live in rural areas- and it has one of the fastest rates of population growth in the world (about 3.3% per annum).

While the contribution by the agricultural sector to GDP has gradually reduced[3]- overtaken by the manufacturing and service sectors, the sector remains the most important source of livelihood, for many Ugandans, employing 77 percent of the economically active population. The sector is also the backbone of industrial development producing the bulk of raw materials used by the largely agricultural based industrial sector. 85 percent of total export earnings also accrue from agricultural exports.

The growth of the sector has slowed- it grew by 2.6 percent in the 2008/09 fiscal year, slower than the population growth rate of about 3.3 percent per annum, indicating a decline in per capita agricultural production. The level of agricultural growth is also far below the 6 percent targeted by the African Union in 2003 under the Comprehensive Africa Agricultural Development Program (CAADP), pointing to the need for increased business investments to promote agricultural activity. In fact, it is envisaged that if an investments strategy in agriculture can be pursued

[1] Team Members: Stanley Musiime (team leader), Jaap Blom, Florence Kasirye, Laban MacOpiyo
[2] Reference by British explorer Henry Morton Stanley
[3] Currently at about 23% to total GDP

that delivers an annual growth of 6 percent per year, this will not only promote the country to surpass the MDG target, but will also reduce the number of absolute poor by about 3 million from 10.15 million to 7.25 million[4].

1.3 Livestock Sector Overview

The livestock sector is an essential part of Uganda's agriculture and is of historical and strategic importance to the country's economy and her population. The sector comprises cattle, goats, pigs, sheep and poultry as illustrated by the table below:

Table 1: Livestock Population trend ('000)

	2008	2009	2010	2011	2012	YOY growth
cattle	11,409	11,751	12,104	12,467	12,841	3%
sheep	3,410	3,513	3,621	3,730	3,842	3%
goats	2,450	2,823	3,208	3,604	4,012	3%
pigs	3,184	3,280	3,378	3,479	3,584	3%
poultry	37,437	38,557	39,714	40,905	42,133	3%

Source: Adopted from UBOS 2011Statistical abstract. * 2008 are census statistics; 2009-2012 are based on a 3% growth rate assumed by UBOS.

As in 2012, the national livestock population is projected at 12.8 million cattle, 4 million goats, 3.8 million sheep, 3.6 million pigs and 42.1 million chickens. This reflects a growth rate of 3 percent per annum- a rate believed to be lower than the growth in demand for livestock products.

The 2008 livestock census indicated that at least 4.5 million families (70.8%) rear at least one kind of livestock or poultry in Uganda. In terms of its contribution to the economy the livestock sub-sector delivers 5 percent of total GDP and 13 percent of agricultural GDP (UBOS,MOFPED 2011). Interestingly, while the growth of total agricultural output has declined, livestock trends have maintained steady growth.

This study focuses on (i) Dairy (ii) Beef and (iii) Poultry sub sectors, as these were found to be most attractive for investment. The piggery sector has been considered but found to be too risky for investment due to the endemic presence of African swine fever in Uganda. Goats and Sheep have limited investment potential due to their low per capita consumption levels.

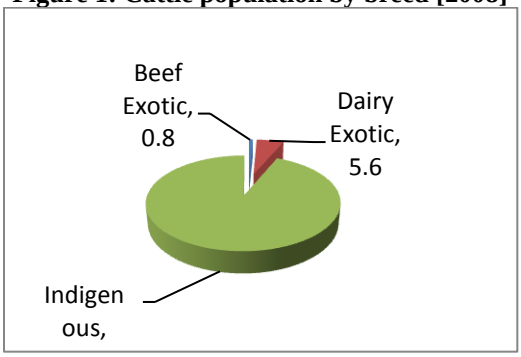
An introductory overview of the selected sub sectors is provided below

Cattle:

Over 1.7 million families depend to varying degrees on rearing cows for their livelihoods. As much as 85 percent of the milk and 95 percent of beef consumed in Uganda is from the indigenous cattle raised by this small scale subsistence farmer. Uganda's cattle herds are 93.6 percent indigenous with the Ankole and Zebu/Nganda breeds accounting for 30 percent and 70 percent respectively. The cattle herd also holds just 0.8 percent of cattle as beef exotic/cross breeds and only 5.6 percent as dairy exotic/cross breeds.

[4] Agriculture Sector Development Strategy and Investment Plan: 2010/11-2014/15

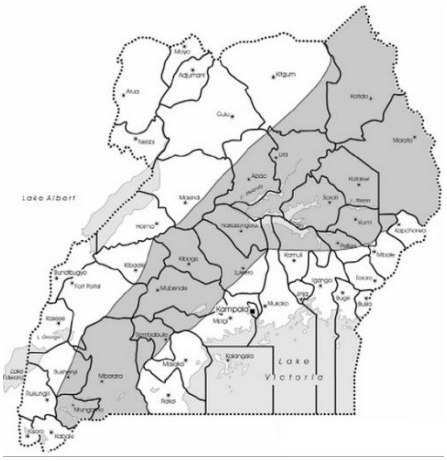
Figure 1: Cattle population by breed [2008]



Source: UBOS 2008 livestock census

In terms of distribution, the eastern region (23%), Karamoja (Northeast) (20%) and central region (19%) have the highest number of cattle followed by the south western (16%) and the northern (14%) regions- although as we find, this population distribution does not correlate directly to the productivity levels.[5] The greatest concentration of livestock is found in the "cattle corridor", (figure 2) extending from South-Western to North Eastern Uganda. The major beef breeds held among commercial beef producers are Boran, Bonsmara, Brahman, Boran x Ankolé, Boran x Zebu and the Holstein crosses

Figure 2: Uganda Cattle Corridor



Cattle farming, for both dairy and meat production, is the biggest livestock enterprise in Uganda for both food production and income for households, and supports an estimated 1.7 million households (UBOS 2008), most of whom are subsistence farmers. The commercial rearing of cattle on beef or dairy ranches is relatively low, with only an estimated 165 ranches operational (EU Beef Study 2012) - accounting for relatively small volumes of both milk and beef presently.

Cattle enterprises have more recently been expanding due to a comprehensive Government of Uganda national strategy plan for the livestock sector which incorporates animal health, animal nutrition, training and delivery, research, and enhanced marketing initiatives (FAO, 2005, MAAIF 2012)). Indeed productivity gains of cattle enterprises have been recorded as increasing over the past years driven by improvements in production systems and farm management techniques, but the resultant production growth volumes still fall below the increasing demand for cattle products.

Essentially cattle are raised as a mixed herd, with little specialization into beef or dairy farming. Subsistence as well as large scale farmers look upon cattle as a source of capital, and after that as a source of both milk and beef production. Among the ranchers, however, there are a few isolated cases of rather successful specialized and more commercial dairy and beef farms.

Poultry:

Chicken rearing is the main type of poultry production in Uganda, although other fowls such as turkeys, guinea fowls, ducks, pigeons, geese and ostriches are kept. Chicken rearing is a more vibrant commercial enterprise, and comprises 95 percent of all poultry.

[5] For example, the southwest with only 22% of cattle population produces 37% of total milk production, while the northern region with 14% cattle population produces only11% of total milk production..

Chicken rearing is characterized by two distinct production systems- (i) the free range system- relied on by majority of subsistence farmers, and (ii) commercial farming (varying in degree from semi intensive to intensive systems). It is an active source of livelihood for about 3.2 million households. Indigenous local chickens are the predominant breed in Uganda, comprising about 87 percent of total chicken production. These are reared across the entire country, with the Eastern region having the highest chicken population (29%), and Karamoja region, the least (only 4%). Chicken meat and eggs are the primary products and are marketed in a number of systems, including the primary (village) markets- where subsistence farmers offer their products largely to meet imminent cash requirements, to urban markets- which are well organized, based in trading centres and trade to individuals and institutional buyers like hotels and restaurants. Commercial poultry slaughter houses that buy (on contract) from poultry farmers are virtually non-existent.

While exotic chicken are also reared and marketed by households, commercial farms are the primary source of this chicken in the country. There is space for more commercial farmers of exotic chicken to meet the fast growing demand for dressed and processed chicken in Uganda.

Commercial chicken farming is constrained by two key barriers being: (i) insufficient and poor quality commercial feeds supply (ii) under supply of Day Old Chicks. These factors translate into the high prices of chicken products on the market, with no doubt an adverse effect on demand growth.

2) Sub Sector Analyses

2.1 Dairy Sub Sector

Milk is an important source of nutrition. The dairy sub sector is also an important driver of food security for Uganda. The importance of this sector to the development of Uganda is well articulated through government's prioritization of dairy as one of the 10 commodity areas identified within the Development Strategy and Investment Plan 2010-2015 (DSIP) - government's strategic blue print for accelerated development of the Agricultural sector.

The dairy sector has maintained an impressive growth rate of between 8-10 percent over the last several years. This notwithstanding, there are still several bottlenecks constraining the increased competitiveness of this value chain, and therefore, significant opportunities for interventions by the private as well as public sectors. According to MAAIF, there is a high but currently underexploited potential to reap greater benefits for all value chain actors in the dairy sector (MAAIF, UBOS, 2009). Due to its contribution to daily income of the farm household, milk is regarded as the most economic and beneficial commodity for small scale producers.

2.1.1 Demand analysis

Domestic market demand

Reliable data on milk consumption in Uganda is seriously lacking. However, there are strong indicators to show that the dairy products market is growing at a fast and steady rate[6] Milk production growth rate has been estimated at over 8 percent/annum (DDA, 2008). Annual per capita consumption is also estimated at approximately 58 litres/person /annum[7], much lower than that of neighbouring countries, such as Kenya at 100 litres/person/annum (NDS 2011-15). This level of consumption also falls far below the standard 200 litres/capita/annum recommended by the WHO. Within Uganda, there are also significant regional differences in per capita consumption levels, ranging from 86 liters/person/annum in the western region- a milk surplus region- to 43 liters/person/annum in the eastern region- a milk deficit region. (Mbowa *et al* 2011).

Up to 70 percent of the milk produced nationally (by both small holder and commercial farmers) is offered for sale to the market- the rest kept for home consumption, and calf rearing. Going by the current level of production as at 2012, estimated at 1.8 billion[8] litres- this puts the volume of milk currently offered to the market at about 1.3 billion[9] litres[10]. The trend in milk consumption is highlighted in the graph in Table 2 below

[6] Mugerwa 2009, cited by Mbowa showed that UHT milk grew by 47.5%, ghee by 56.8% and cream by 33.9% between 2003 and 2006.

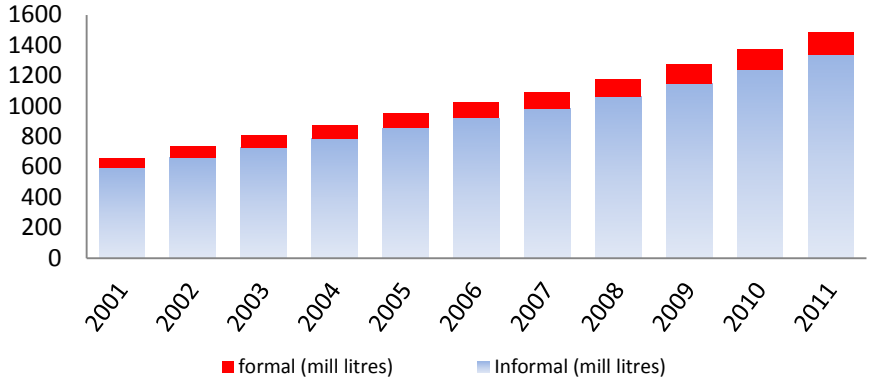
[7] Mbowa S., Shinyekwa I & Lwanga M. M 2011: Draft Report - Dairy Sector Reforms and Transformation in Uganda since the 1990s.

[8] This figure is the current estimate as at 2012 and is based on the current level of the national herd. The official figure of 1.5 billion usually cited dates back to 2008.

[9] Obviously this is not a real reflection of the demand; as such an assessment would require a consumer survey. It is however the commonly used method in estimating market consumption level- also applied across neighbouring regions.

[10] In contextualizing this, level of consumption, learning from neighbouring Kenya are helpful. The higher per capita milk consumption of about 100 litres/person/year- while partly explained by higher per capita income level, is also largely because of the much more developed production systems at primary production-even among the small holder farmers, but also as importantly, due to the school milk program- which inculcated a strong culture of milk production among the young students- now adults, parents and 'believers'. This is well known to industry actors including MAAIF, but efforts to start a similar program in Uganda, have so far been fruitless.

Table 2: Annual Milk Consumption in Uganda, 2001-2011 [million litres] (2008-2011 extrapolated)



Adapted from Elepu 2008.

Market Retail Channels:

There are two distinct milk retail channels in Uganda referred to as the (i) formal and (ii) informal market segments.

a) Formal segment: Only about 10 percent of the milk traded in Uganda- (130 million litres) is passed through the formal (processed) channel. This formal market for milk is concentrated in the major urban centres, particularly Kampala, Entebbe and Jinja, and is showing a faster rate of growth with a recent study (World Bank, 2009) indicating an 11 percent year on year growth in the processed milk segment. Processed milk products are also largely available in many parts of the country, but mostly limited to the big towns[11]. The more rural areas are not commonly served through this segment. The primary products offered within the formal segment include the following:

Processed milk is sold through the supermarket and grocery shop outlets.

- Pasteurized milk accounts for 80 percent of all processed milk sales. This is primarily offered and generally accepted by consumers in pouches. Use of plastic bottles has been observed lately, but the viability of this is not yet certain, as the value proposition- the benefit of plastic bottle over pouch-may not be clear to the consumers.
- Yoghurt sales have seen an impressive growth over the past years, driven by an increase in production especially from the small scale/cottage actors who have sprouted largely in the urban areas[12].
- It is clear that UHT is a space reserved for only the large scale processors- who can afford the required capital expenditure. Local and imported UHT products are increasingly visible on the supermarket shelves, including (i) Fresh Dairy, (ii) Rainbow – both locally produced[13] and (iii) Brookside- a Kenyan import product.

Are there gaps in the supply of processed milk that point towards opportunities for investment? We would argue yes- given the potential for increased per capita consumption, the limited range and innovation in current product offerings, and the fast growth rate of the processed milk segment.

[11] Big towns within upcountry areas also present a market for processed milk due to higher income levels of big town residents, and higher population densities.
[12] A low level of investment is required for a yoghurt set up, therefore an investment opportunity within the reach of many small scale 'informal sector' actors.
[13] By Sameer Agriculture and Livestock Ltd, and Rainbow industries Ltd respectively.

b) Informal Segment[14]: Up to 90 percent of all marketed milk is channelled through the large and vibrant 'loose' milk segment (Keyser 2009), referred to as the "informal sector", making unprocessed milk the most commonly consumed dairy product[15]. This also implies that consideration of this segment is extremely critical for any interventions targeted at stimulating productivity within the entire dairy value chain. This segment also presents significant opportunities for increased value addition.

It is often perceived that this segment deals largely in the trade of raw unprocessed milk. To the contrary, Keyser (2009) estimated that only about 40 percent of the milk marketed in this segment was, in fact, sold completely raw without chilling. Actors in this loose (informal) milk channel have over the last ten years invested in appropriate technology like coolers, batch pasteurization and cooking units that are now used to treat a relatively big portion of the milk marketed through the informal segment.

The trade in loose unpackaged milk will continue to be a vital component of the milk trade, largely because these traders - a number of whom are licensed by DDA- are able to meet a need that the formal large-scale processing market cannot: ensuring that milk is both readily available and cheap—meeting the needs (in terms of both convenience and price) of many low-income households (ILRI 1996, NDS 2011), while also paying prices to producers that the formal market cannot match.

The consumption of unprocessed milk is however, never without risk as the milk is sometimes adulterated with water or chemical preservatives. DDA working together with the Uganda National Dairy Traders Association (UNDATA) is trying to effect a code of conduct to curb malpractices. In addition, DDA is tightening quality inspection to ensure both quality and safety of milk that passes through this important distribution channel.

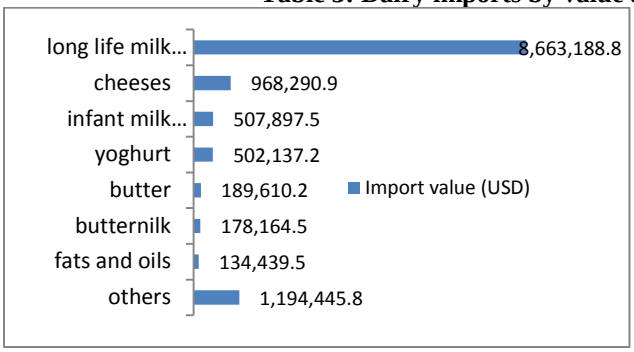
It can be expected that the adoption of improved technology will continue to be an area of competitive advantage- as informal sector milk clients continue to perceive and demand better quality offerings in this segment- raising significant opportunities for both investment and trade in the informal sector.

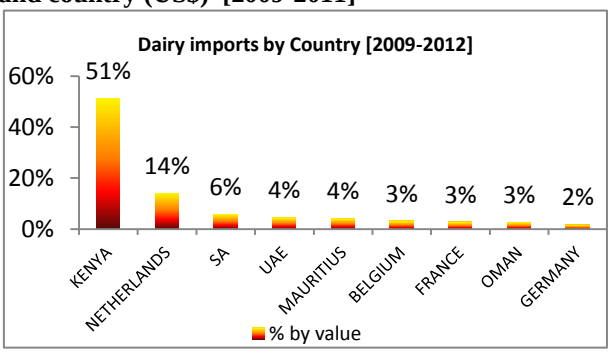
Demand for imports: The demand for imported milk products is not quantified from any available demand statistics, but can alternately be analyzed from the current level of imports. Records from UBOS and MAAIF indicate that a number of dairy products are imported into the country, the most important of these being long life milk products, cheese, infant milk products and yoghurts. The relative importance of these products is highlighted in the table 3 below.

[14] The term 'informal' was historically used in reference to actors operating beyond the purview of the law and regulators (unregistered, unlicensed and untaxed), but many so called informal actors are now being formalized through licensing and regulation by DDA, and these particular actors find the reference "informal' therefore inappropriate and undesirable, hence the emergence of the alternative reference of loose milk traders used in this study.

[15] Although almost all milk is boiled before being consumed, Keyser (2009) estimates that only 40% of the milk marketed by the informal sector is, in fact, sold completely raw without processing or chilling.

Table 3: Dairy imports by value and country (US$) [2009-2011]





Quality is the main driver of demand for imports as these are perceived to be of higher quality to local products. With the exception of infant milk products, however, there are a variety of local product substitutes for all milk product imports. Kenya is the biggest importer, of milk into Uganda, accounting for over 50 percent of all imports. It is also worth considering that imports are demanded by the more affluent customers and are accessed primarily through supermarket stores and a limited number of grocery shops. This implies a relatively small level of demand.[16] Therefore, the degree to which demand for imported dairy products should influence investment decisions is viewed as relatively insignificant as imported products cater to only a small percentage of the population who prefer or can afford such products.

Pricing and margins

Consumer milk prices are directly impacted by the price fluctuations of milk at the farm gate. Prices will shoot up in the dry seasons, when milk supply levels drop, and fall in the wet season when milk supply increases. Due to the low level of competition among processors- as Sameer Agricultural & Livestock Ltd (SALL) is the price setter, and the others followers, the processors, are able to load all their costs in the price offered to the consumer, and to shift this upwards as input costs go up.

Table 4: Indicative Margins Analysis for Pasteurized Milk 2012 [UGS]

	1000 ML	*% mgn*	***500 ML***	*% mgn*
Retail price	1700		900	
margin	*200*	*12%*	*150*	*17%*
Ex factory	1,500		750	
margin	*600*	*40%*	*300*	*40%*
Trader	900		450	
margin	*300*	*33%*	*150*	*33%*
Farm Gate	600		300	

Source: field research, April 2012

The above analysis illustrates the frequently encountered theme from the several visits and interviews held, that there are good margins[17] being made by milk processing companies. The margins for yoghurt are even higher and largely explain the tremendous growth of yoghurt supply - that has translated into increased consumption in Uganda. At a cottage industry level most actors that are upgrading into processing are specializing in the production of yoghurt.

[16] 80% of all processed milk is pasteurized- all locally produced.

[17] The margin cited does not account for production and overhead costs, as this information is not publically available, but most upcoming processors indicate that margins are very competitive.

Table 5: Indicative Margins Analysis for yoghurt 2012 [UGS]

	Yoghurt					
	500 ML		***400ML***		***250 ML***	
Retail price	2600		1300		1100	
margin	*1,150*	*44%*	*300*	*23%*	*375*	*34%*
Ex factory	1,450		1,000		725	
margin	*1,000*	*69%*	*640*	*64%*	*500*	*69%*
Trader	450		360		225	
margin	*150*	*33%*	*120*	*33%*	*75*	*33%*
Farm Gate	300		240		150	

Source: Field research, April 2012

It is important to note that the income elasticity of demand for milk is greater than one, meaning that with the projected continued growth of the economy and the associated increase in household incomes, the demand for milk can be expected to expand rapidly.

Implications for Investment*:* From a demand analysis, it appears certain that there is a robust and growing demand to justify investment and trade both in the formal and informal segments.

- Current high product pricing and margins offers entry and competitive strategies, through low cost production and therefore competitive price positioning.
- The narrow range of product offerings offers more opportunities for innovative[18] ideas.
- The informal segment is attractive from its sheer size, and opportunities in this channel are perceived more in the area of trade- through selling, implementing and servicing improved technologies for collection, quality checking, cooling, transporting and distributing to larger and smaller end users.

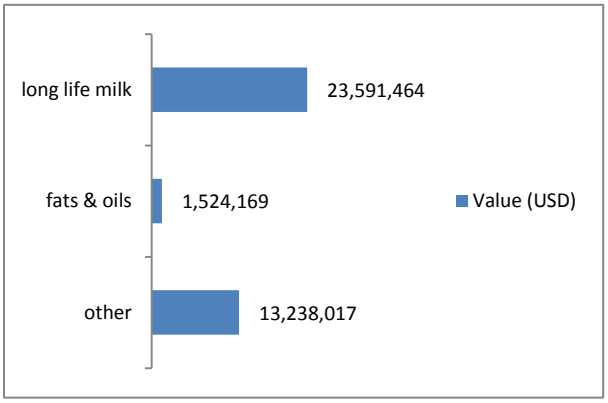
Regional demand

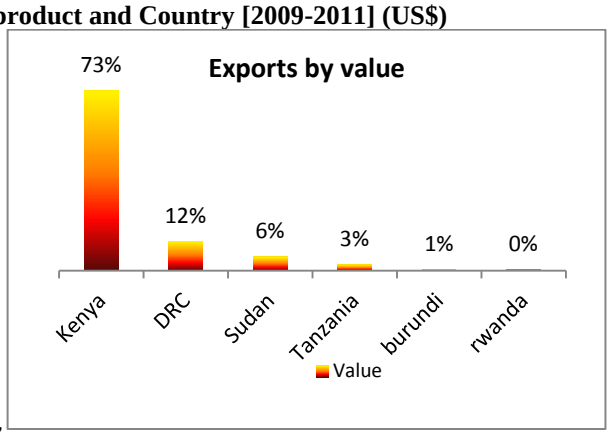
Potential exists to expand milk and dairy product exports into the East African Community (EAC) regional markets: Kenya, Southern Sudan, Tanzania, Rwanda, Burundi, DRC and even beyond to the rest of the COMESA region (DDA 2008). The Middle East and the Arab countries of North Africa are also a potential market[19].

The primary milk exports for Uganda are UHT and milk powder. Statistics analysed[20] indicate that between 2009 and 2011, Uganda exported milk products of 6,555 MT, (2009), 10,803 MT (2011) and 14,187 MT (2011) valued at a total of about US$38 million for all three years collectively. Over 60 percent of all exports were for UHT products, as highlighted in the table below:

[18] It was observed by members of the investor board (some representatives of Dutch companies visiting Uganda to identify potential), that innovation and product differentiation was extremely limited. For instance there is very little difference between the yoghurt plastic branding of several companies.
[19] There are no official records of milk exports to these countries as yet.
[20] From UBOS and MAAIF.

Table 6: Dairy Products Exports by product and Country [2009-2011] (US$)





Source: Extracted from raw data received from UBOS/MAAIF 2012

In 2008, Sameer Agriculture and Livestock Ltd (SALL) also started exporting milk powder, after the installation of a 200,000 litre powder milk facility[21]. The experience of SALL is a good reference point in determining the attractiveness of the milk export market. In discussions with management during this study, it was indicated that the Company exports about 45 percent of their total milk production[22]. The Company claimed to have export markets in 17 countries[23]. The inability by the company to maximize supply to these markets was blamed on the limited milk supply.

Over 12 million litres of UHT milk - about 10 percent of all processed milk- were exported in 2011 to the region (see table above), primarily by (i) SALL based in Kampala, (ii) GBK Dairy Products Ltd based in Mbarara and (iii) Birunga Dairy Industries Ltd based in Kisoro. Again, according to SALL, the amount of milk exported could have been higher, if there had been a constant supply to enable them to fully utilize the installed capacity.

As businesses continue to develop an outward focus, neighbouring Southern Sudan will remain a market of strategic importance. However, the region, although blessed with immense oil reserves, still lies in the throes of political and economic turmoil. Hence progress towards self-sufficiency is likely to remain slow, and the young country[24] will continue to look to Uganda for much of its dairy requirements.

Informal dairy trade goes on across all borders of Uganda but the volume traded has not been documented.

[21] A 200,000 litres milk powder plant translates into a 22,000 kg milk powder capacity.
[22] Interview with CEO, Mr. Anoop Sharma.
[23] This can be validated by export statistics seen from MAAIF that indicate dairy product exports to about 25 countries, although it is clear that sales to countries beyond Eastern Africa are minimal (See table 6). As the leading processor, SALL would be expected to be the main exporting company to these countries.
[24] Southern Sudan was declared an Independent state on 9th July 2011.

2.1.2 Supply Analysis

Figure 3: Milk Shed Areas in Uganda

Source: NDS 2011-2015

For purposes of milk production, the country has been divided into six milk sheds (Fig. 3). In Uganda, dairy cows are the major source of milk, as the population of dairy goats and other milking animals is insignificant. The central and South western milk sheds are the major milk producing areas, contributing 49 percent of the total national milk production.(NDS 2011-15) Most cattle are found in the cattle corridor (fig 3)- which is sometimes affected by extended drought periods, and a resultant scarcity in water that has an acute effect on milk productivity. There are very few Ugandan small holder, medium-scale or large-scale livestock farmers that have intensified and specialized in preserving fodder for dry season feeding. The effect of this dependency by most farmers on seasonal availability of rainfall is strongly reflected in the milk volume fluctuations experienced across the year. There are therefore commercial opportunities for farmers who can invest in supplementary feeding, to benefit from the increased prices during the dry seasons.

The dairy sub sector at the farm level is overwhelmingly based on smallholder farmers keeping indigenous cattle, with herds ranging from 1 to 40 heads. Looking specifically at the characteristics and attributes shaping the performance of the different milk sheds.

West: Although with only 22.3 percent of the cattle population, this region produces the highest volume (37%) of milk in the country. This is attributed largely to the relatively higher level of improved breeds in the region. The number of milked cows in this region is estimated at 1.5 million. This area also benefits from a higher level of infrastructure in terms of cold storage milk bulking points.

Central: The central region has the highest milk productivity of about 9.8 litres per cow/week[25] (NDS 2011-15). This area also has a higher population of the more productive exotic and cross breeds. Some farmers in this region have invested in fodder banks, improved pastures and they supplement the animals with concentrate feed bought from formal and informal animal feed processors. However, the quality of this feed cannot be guaranteed resulting into losses to the farmer. Farmers in the central region, obviously enjoy the benefits of being closer to the main markets of Kampala and Entebbe where they are able to market their milk directly to the consumer at higher prices

East: The eastern region does not produce enough milk to satisfy the local regional market and is thus a milk deficit area. Government made efforts to restock the area with animals from other parts of the country.

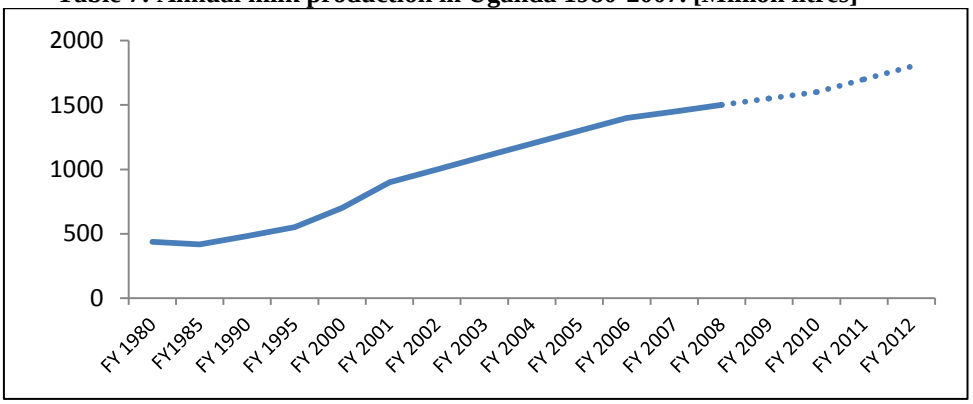
North: For about two decades, this region was ravaged by civil war. This resulting insecurity led to a decimation of the herd, through abandonment, as farmers fled, and through feeding the rebel horde. Now restored to full peace since 2007, the region is undergoing resettlement and livelihood development programs.

[25] This low productivity level still reflects the high population of less productive indigenous cattle.

Karamoja (Northeast): It is estimated that this region produces only 7 percent of the national milk production, in spite of holding 20 percent of the national herd. This may be attributed to the low productivity of the indigenous animals which make up over 98 percent of the Karamoja herd, kept on arid land with very limited pastures for grazing. Animals have to walk very long distances in search of pasture and water. The milk from this region is mainly consumed within the region with insignificant volumes offered to the broader national market. As the primary source of livelihood in the region, livestock farming presents a big opportunity for development initiatives. Viable business opportunities in the region are being explored through the Prime Minister's Office and the specially created ministry responsible for the region.

Production volumes.

Table 7: Annual milk production in Uganda 1980-2007. [Million litres]

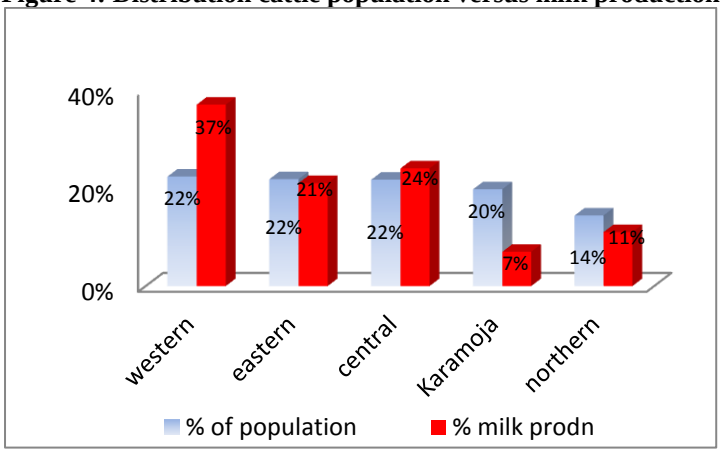


Source: South to South Mission Report 2010

The annual milk production currently is estimated at 1.8 billion litres. Dairy farming is concentrated in the south-western and central regions which contribute 383.3 million litres (25%) and 367.1 million litres (24%) of the national milk production respectively as exhibited in Figure 4. (NDS 2011-15).These are followed by the eastern region 327.4 million litres, the mid-western region at 176.4 million litres, the northern region at 172.6 million litres and the North-eastern region (Karamoja) at 99.2 million litres (Source DDA).

The table below illustrates the relationship between livestock population and dairy milk production in the various regions

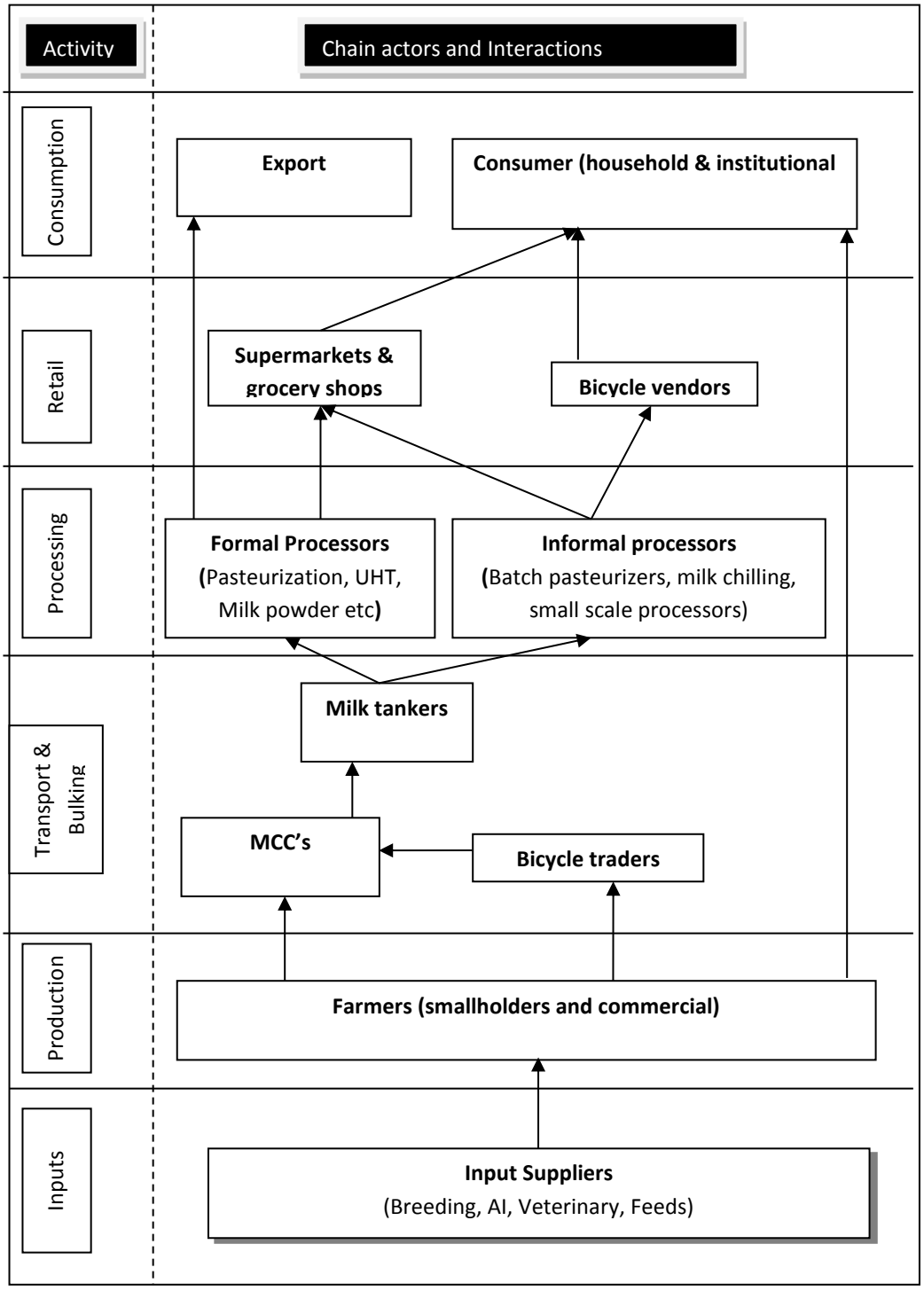
Figure 4: Distribution cattle population versus milk production



Adopted from MAAIF & DDA Statistics (2008)

2.1.3 Actors Analysis

Figure 5: Dairy Value Chain Map



Formal sector processors:

There are thirteen registered processors in the dairy value chain, operating at varying levels of capacity-with a combined installed capacity of 821,000 litres per day. Six of these are fairly large scale processing plants and seven are mini dairies (DDA 2012). A new milk powder processing plant (by Pearl Dairy Ltd) is in advanced stages of construction with a capacity of 200,000 litres in the south-western region. Most of the factories have been operating significantly below their installed capacities- largely due to supply constraints- but the situation is improving with an average utilization capacity of 68 percent (Table 6).

Table 8: Milk Processing Plants

	Name of Company	Location	Installed Capacity L/Day	Capacity Utilization L/Day	Product Range
1	Sameer Agriculture & Livestock Ltd (SALL)	Kampala	550,000	375,000	Pasteurized milk, UHT, Yoghurt, Butter, Ghee, Powdered milk.
2	G.B. K. Dairy Products (U) Ltd	Mbarara	96,000	20,000	Pasteurized milk, UHT, Ghee
3	Jesa Dairy Farm	Busunju	40,000	30,000	Pasteurized milk, Yoghurt, Butter, Cream
4	Hillside Dairy & Agriculture Ltd.	Mbarara	40,000	3,000	Pasteurized milk, Yoghurt
5	Birunga Dairy	Kisoro	15,000	8,000	UHT
6	Maama Omulungi Dairy	Kampala	8,000	8,000	Pasteurized milk
7	White Nile Dairies	Jinja	6,000	3,000	Pasteurized milk, Yoghurt, Cream, Ghee
8	NIRMA Dairy & Foods Ltd.	Entebbe	5,000	2,200	Pasteurized milk, Yoghurt, Cheese
9	Toro Dairy Cooperative Society Ltd.	Fort Portal	4,000	2,000	Pasteurized milk, Yoghurt
10	MADDO Dairies Ltd	Masaka	4,000	2,500	Pasteurized milk, Yoghurt
11	Paramount Dairies	Mbarara	3,000	2,500	Cheese
12	Family Choice	Mbarara	2,000	1,200	Yoghurt, Pasteurized Milk, Sour Butter, Ghee
13	Seasons Dairy	Kayunga	5,000	4,000	Cheese
14	Rainbow Industries	Mukono	20,000	20,000	UHT ice-cream
15	Pearl	Mbarara	200,000	n/a	In process of installation of milk powder plant

16	Holland Dairy	Kampala	n/a	n/a	In process of installation- cheese plant

Source: DDA 2012, Field research

The biggest and most influential milk processor is Sameer Agricultural and Livestock Limited. This company has an installed capacity of 550,000 litres per day (one shift), but claims[26] to operate at about 375,000 litres per day (less than 50% efficiency[27]), SALL leased the factory from government in 2006- as the milk sector was liberalized and private sector actors were invited to revamp the underperforming Dairy Corporation Ltd. In this way SALL acquired not only the processing plant, but also the transport fleet and most of the cooling infrastructure set up in the South-western region. The company has since then rebranded its products, diversified product portfolio and expanded the network of tankers, and collection centres, consolidating its influence in the sector. SALL is the price setter at both the retail and farm gate levels. Processors will usually benchmark their market prices against SALL to be competitive at the retail level rather than base their pricing decisions on an internally driven pricing strategy. At the farm gate level, the informal traders use SALL offer as a basis onto which they load a premium to the farmer to remain competitive. This way the informal sector always offers a price slightly above the SALL price, rather than a 'competitive price.' The role SALL plays in the value chain is an important one. The company has the ability to buy all milk produced all year round, even in the flush[28] seasons, when smaller traders and processors reject farmer's milk because of limited capacity to process and or sell the extra milk.

Jesa Farm Dairy is an important processor especially from the perspective that they have successfully demonstrated the viability of an integrated model[29]. This company is different from SALL and all other processors in that it relies mainly on its own dairy farm for its input of raw milk for processing. Additional milk is sourced from neighbouring farms at premium[30] prices. In this regard, Jesa has facilitated nearby farmers to establish cooperatives and associations, and is thereby performing the important role of providing access to supplementary feeds, drugs and other services more efficiently. This company has an installed capacity of 40,000 litres per day – about 7 percent of SALL's capacity, but is arguably the market leader within the central region in the sale of Pasteurized milk[31]. This is driven by an apparently widely held perception among consumers that Jesa milk products are of the most superior quality on the market. The lesson from Jesa is simply that an integrated dairy farming and processing model is feasible in Uganda, and has the potential to have far reaching economic and developmental impact to small scale farmers.

The main processing activity for most large processors is milk pasteurization- which accounts for 80 percent of all processing activity, and yoghurt production. Only four companies; (i) SALL, (ii) GBK, (iii) Birunga and (iv) Hill Side have invested in UHT capacity, and only one (SALL) has a milk powder plant[32]. Three of the four UHT plants are participating in export of UHT milk to Kenya, Rwanda, Democratic Republic of Congo and Southern.

The production of yoghurt has had a growing market since 1995. Yoghurt sales grew by more than 100 percent in 2005, partly as a result of improved quality control and packaging making locally produced products more

[26] Records of company performance are not publicly available. This performance was inferred from meetings with top management.
[27] Taking into consideration double shift capacity.
[28] Period when there is a lot of milk usually in the wet season due to an abundant availability of water and pasture
[29] Where the investor is involved in both dairy farming and milk processing
[30] Jesa is at the time of this writing, offering 1,200 UGS per litre to neighbouring farms, a premium of 50% above the current farm gate price of 800 shs
[31] The company also makes yoghurt, and butter
[32] A new milk powder plant is in advanced stages of setup in the South western region.

competitive with imports in the higher end retail markets in Kampala. This is reflected by an almost total import substitution, - which is evident from an inspection of the supermarket shelves[33].

Products after processing are distributed directly to retail outlets including supermarkets and grocery shops[34]. The large supermarkets in Uganda however have significant qualification requirements, (such as bar-coded products, VAT registration certificates) and lengthy payment periods (30-90 days), which forces most processors to look to the smaller, less strict, outlets, the grocery shops, and neighbourhood supermarkets- which predominantly pay cash on delivery.

Despite underutilisation of existing processing capacity by all processors, there is insufficient capacity in the country to process all the milk produced during the rainy season. Under-utilisation of installed capacity according to industry experts, is attributed largely to (i) poor investment decision[35], (ii) erratic power supply (iii) irregular milk supply (iv) inadequate management skills (v) high transportation costs (vi) insufficient cold storage and (vii) the dominance and aggressiveness of the informal segment raw market traders, who actively try to buy milk from farmers normally delivering to the processors.

Investment and trade opportunities at processing level

There are clear investment and trade opportunities at the processing level.

- We see room for additional investments in UHT and powder milk facilities. These provide access to wider markets, and reduces the need for immediate selling because of longer shelf life.
- Limited ability to maximize installed capacity. While installed capacity up to 70[36] percent of marketed milk is available, the majority of processors for various reasons- particularly resource constraints and low aggressiveness- will not be able to utilize existing capacity. More aggressive and better capitalized investors can tap into this gap.
- Evidence of high margins at processor level- a competitive tool in the fight for entry and growth- through offers of lower market prices and/or higher farm gate prices.
- Innovating into new product and supply processes. In Kenya for instance, an increasing volume of pasteurized milk is sold unpackaged, but sold from dispensing machines found in strategic retail locations including supermarkets. In India, large scale dairy processors have specialized in the distribution of pasteurized milk in tankers to cooling points where it is sold- with all the appropriate safeguards to guarantee product quality.
- Integrated dairy farming/processing models work successfully. They are also quite successful at delivering sizeable impact to neighbouring small scale farmers.

Small scale/Cottage Industry actors

Besides the large processors described above, high value specialty dairy products are increasingly being produced by a number of micro-processors and back yard cottage industries in all regions of the country. There are many small-scale/cottage milk processors but only 35 are registered and licensed by DDA. The exact number of these

Figure 6: Appropriate technology- batch pasteurization

[33] A consumer survey revealed that yoghurt was increasingly popular w
40% of the population nationally, and whose tastes and preferences wi
[34] In Uganda, grocery shops remain the most important point of sale fo
[35] Due often to unreliable market information, and poor feasibility stud
[36] A 70% capacity utilization is assumed achievable if plants were to b
litres per shift) for full 24 hour days (2 shifts- with 2 hours for cleanin

actors is not known as many operate as non-registered companies and are not licensed by DDA.

The key products by the cottage industry are yoghurt, ice cream, ghee, sour butter, cheese and cream, with Yoghurt and ice cream being the most commonly produced, and some renowned brands have emerged.

The cottage industry in Uganda, forms part of the large informal milk sector, and it includes some of the big raw milk traders that are increasingly adopting improved technologies in their production processes. Indeed several processors have invested significant levels of capital in imported technology (mostly imported from Japan).

Capabilities, skills and resources remain significant constraints to cottage industry actors. But there are some remarkable businesses whose growth in spite of these challenges has been quite spectacular. Many have grown from backyard processors, to small scale mini processing plants, through adoption of appropriate technology. Significant growth remains to be unlocked for many cottage industry actors through partnerships, financing and trade opportunities.

Transporters

The transportation of raw milk from the farm gate to the processor (and often the household consumer) is done by (i) the bicycle trader (ii) the collection/bulking point trader and (iii) the insulated milk tanker operators. These actors are all important participants in the milk route to market.

Bicycle traders- are the primary interface with the farmer. They play the important role of collecting milk produced by several small scale farmers often located across a diverse geographical region, who are often too far from the market centres, or the nearest milk cooling point. These traders purchase the milk, and transport it sometimes over lengthy distances to the collection points some of which have cooling facilities. These actors are well known to the farmers and this relationship facilitates some form of value chain financing- as the farmers are able- but rarely willing- to provide the milk on credit in the morning and be paid later by the traders after they have sold the milk to the collection centres or to household consumers.

Milk collection centres- In the 1990s, almost all of the 60 collection centers in the country— located primarily in the South-western milk shed area—belonged to the Dairy Corporation (DC). Following the liberalization of the subsector and the transfer of the DC to SALL, the network of collection centers expanded. As a result, there are currently 377 centers, spread throughout the South-western, western, central, and eastern regions; the majority are owned by SALL. Each center comprises 2,000 to 5,000-liter capacity milk cooler and a generator. Approximately 50,000 farmers are now marketing their milk through these facilities. This capacity is however still extremely limited. Apart from the South-western region, and to some degree, the central region, the rest of Uganda is without a proper milk collection infrastructure.

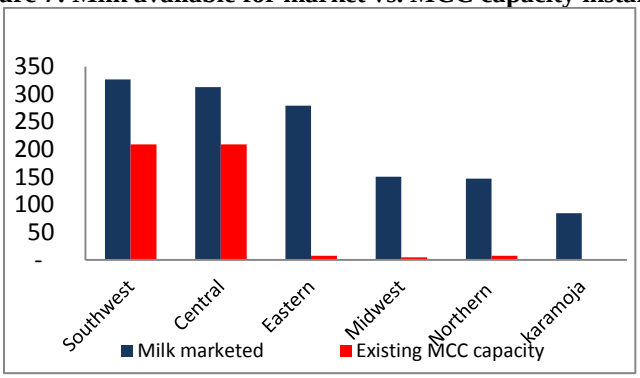
Table 9: Distribution of MCC's in Uganda

Milk Shed	% of milk prodn	No. MCCs	%	Capacity/L
Southwest	25%	260	69%	580,000
Central	24%	46	12%	104,000
Midwest	12%	46	12%	72,000
North	11%	13	3%	20,000
East	21%	12	3%	12,000

	100%	377	100%	788,000

Placing more of these collection centres closer to the farmers presents one of the biggest opportunities to stimulate increased value chain productivity. Better infrastructure like more cooling centers will result in higher availability of milk for the formal sector. The gap between milk harvested and availability of milk collection and cooling centres by region, is highlighted in the table below:

Figure 7: Milk available for market vs. MCC capacity installed



Deployment can be facilitated through either (i) financing of processors and transporters to acquire and install these facilities or (ii) financing organized farmer groups and cooperatives. This therefore is an important opportunity both from a trade and development perspective.

Transport tanker operators- By 2011 DDA had 38 registered transporters with capacity to transport 750,000 litres of milk per day. Milk tanker collection capacity has grown rapidly from 200,000 litres in 2002 to the current level. SALL owns the biggest fleet (over 50 trucks), much of which it has leased out to individuals to whom it has outsourced milk collection and delivery services to its factory. The informal sector owned 62 milk tankers by 2011 (DDA 2012). This collection capacity is still insufficient to further stimulate productivity in the chain. In discussions held with some of the leaders in the transportation business, it was invariably suggested that there is need for increased investment, in tankers and cooling tanks. Growth is primarily constrained by the high capital investment requirements in procuring these tankers and coolers. Increased access to financing for transporters to increase the fleet of tankers as well as the collection points makes good business sense. It would also provide significant stimulation to the value chain.

Farmers

The dairy industry in Uganda is based largely on smallholder farmers – producing for home consumption and only offering available surplus to the market[37] – estimated nationally at about 1.3 billion litres in 2011. In an effort to increase production and productivity, there has been an increase in cross breeding the indigenous stock with pure dairy breeds particularly the Friesian through use of Artificial Insemination (AI) and exotic bulls. Consequently milk production has increased by 8 percent annually over the past two decades mainly from a rapid build-up of the dairy herd[38]. Sale of milk is the major and often the only source of regular income for the vast majority of these smallholders. A very small but growing number of farmers have started manipulating breeding so that animals calve down in the dry season taking advantage of higher milk prices in the dry seasons. Supplementary feeding is emerging as a practice among these particular farmers.

[37] DANIDA Report on the Opportunities for Investment in the Dairy Sector 2010.
[38] Through increasing proportion of improved breeds within total national herd.

Some smallholder farmers particularly women who have benefitted from NGO's involved in livestock sector now own pure dairy breeds sourced from the existing stock. Partly due to this, a significantly increasing proportion of milk is being produced from zero-grazing units that have been established by farmers with only small land holdings, mostly living close to a market. Typically, these farmers, who are mainly women, keep between one and three dairy cows in a stall on a zero-grazing regime. As land is usually insufficient to keep a bull, these farmers make regular use of AI services although in some cases these services are not readily available.

The demand for good dairy breeding stock outweighs supply hence the skyrocketing prices for pure dairy breeds and crossbreeds. The current market price for an exotic breed dairy in-calf heifer ranges from 2.8 – 3.5 million shillings (US $ 1,120 – 1,400). However, upgrading of the cattle has only minimally been accompanied by the corresponding change in the cattle farmers' management skills and practices, especially improved feeding of the dairy cow. In addition limited change has occurred in the availability of extension and research services to the farmer.

Important to mention is that the number of commercial farmers with large herds of exotic dairy cows (Holstein-Friesian, in particular) is very limited.

Small scale dairy farmers have over the past two decades started re-organizing themselves into associations or cooperatives in order to better participate in the market. Farmers in the south-western milk shed have evolved into an extremely well organised cooperative Union, (UCCCU) operating at the national level. Members through this union supply over 36 million litres of milk a year mainly to SALL. The union is in the process of establishing a milk processing plant[39] to further integrate farmers into the market[40].

Farmers in the central region are following closely behind and formed the Central Uganda Dairy Cooperative Union in 2010. The union is currently looking for financing to start a small animal feeds processing unit as a means to serve its membership with quality feeds and earn an income for the union. Also in this region, with assistance from various projects and funders[41], a total of 39 dairy farmer cooperatives have been revived and new ones established. Of these, 11 (28%) have acquired new chilling plants through loan financing guaranteed by EADD, 7 (18%) are running processor owned chilling plants and 21 (54%) are participating in the informal milk segment. The expected long term objective is for the development of dairy hubs fully capable of providing all the required by the dairy farmers including veterinary services,, artificial insemination (AI) services, financing services (through SACCO) and others.

Farmers in the eastern and northern regions are not yet well organized yet. Efforts are being made to stimulate milk production in northern and eastern regions which are considered milk deficit areas. Currently DDA is rehabilitating three of its defunct MMCs with plans to hire them out to private operators. Farmers in Gulu embarked on forming a cooperative union, which is still in its very early stage and will need significant support in capacity building in the coming years.

Regulation

Regulation of the livestock industry is the responsibility of the Ministry of Agriculture, Animal Industry & Fisheries (MAAIF), but it is spearheaded through the semi- autonomous agency the Dairy Development Authority (DDA).

[39] A building to house the processing plant has been constructed and roofed. Farmers are now in the process of raising funds to complete the building and purchase processing equipment.
[40] Supported by Danish mixed credit finance instruments
[41] The East Africa Dairy Development project (EADD) funded by the Bill & Melinda Gates Foundation and the United Nations Food and Agriculture Organization (FAO)

DDA was established as a semi-autonomous agency of MAAIF under the revised Dairy Industry Act and became operational in 2000, with a mandate to regulate, coordinate, and harmonize the liberalized sector in order to achieve and maintain self-sufficiency in milk production and dairy products. A number of statutes have since been promulgated under the act to facilitate its regulatory functions and, since then, it has been particularly active in enforcing milk hygiene standards and quality control. It now requires all milk traders to be licensed to meet minimum public health and milk quality standards (657 traders were licensed in 2005/06, for example[42]) and provides training in these areas. The Dairy Development Authority (DDA) has been closely involved in facilitating the formation and operations of grassroot associations and in developing the capacity of their members. It also continues to work with UDISA in sensitizing producers and processors to the need to improve the quality of milk and milk products on the market.

With the DDA set up, the role of the government in dairy sector changed from direct participation in milk production, processing and marketing to that of creating an enabling environment in which farmers and private investors can grow and develop the dairy industry. Although the Authority is mainly funded by government and is tasked with implementing government dairy policy, its board contains members from the farming, processing, and informal sectors. As a result of DDA's activities, there has been a significant improvement in the quality and safety of milk and milk products.

Umbrella Organisations

The following stakeholder organizations have been established and are active at the national level:

Table 10: List of dairy associations

Association	Members	Activities/Programs
Uganda National Dairy Traders Association (UNDATA)	3000 +	This association organizes the dairy traders and transporters. It plays the important role of lobbying government on reforms for raw milk handling and is currently assisting DDA in the regulation of this important sector through a wide network of district representatives.
Uganda Crane Creameries Cooperative Union (UCCCU	18000+	Is an Apex national dairy cooperative union, mainly operating in the southwestern milk shed, with 110 primary cooperatives and 12 district unions. Had turnover of 12.5bn UGS in 2011. Are influencing policy at national level. Solicited support from developing partners-Swedish cooperative centre, DANIDA, Land o Lakes and Agriterra etc.
Central Uganda Dairy Farmers Cooperative Union	1200+	Newly formed. Has 8 primary cooperatives, and is in the process of recruiting farmers in the central milk shed.
Northern Uganda Dairy Farmers Association.	n.a.	Newly Formed (2008). Aims to stimulate dairy cooperative formation in the northern region.
Uganda Dairy Processors Association (UDPA)	30+	Is the apex body for dairy processors. Facilitates marketing campaigns on radio and in newspapers to promote dairy products consumption Worked on the development of strategy for export markets.
Uganda Dairy Industry Stakeholders Association (UDISA)	n.a.	It was more active in the past. It represents its constituent organizations and their members in dealings with the government and other parties. It has become less active with the revival of dairy cooperatives.
Uganda National Dairy Farmers Association (UNDFA)	200+	Established in 2001, as the umbrella body for dairy farmers to lobby for the involvement of dairy farmers in the privatization of DCL and in the national milk campaigns. In the past, it received funding from French Government to undertake member

[42] Approximately 15 million litres of raw milk were being sold each year in Kampala without licence in the mid-1990s, for example (ILRI 1996).

Association	Members	Activities/Programs
		programs, and was involved in the formation of the regional farmers associations and cooperatives.
Uganda National AI Technicians Association	150+	Is relatively inactive. Has a seat on the NAGRIC board, Is supposed to regulate the AI service providers.
Western Uganda Dairies Association (WUDA)	18,000+	Collaboration with the SIDA in strategic plan implementation. Lobbied DCL to maintain competitive prices for their members.
Eastern Uganda Dairy Farmers and Breeders Association	100+	Completed group strengthening training for members. Market survey for collective marketing completed.

Dairy farmers have been increasingly coming together initially in associations and over the past decade reviving dairy cooperatives and forming new ones to enable them have a common voice and vertically integrate in marketing.

The impact of that effective associations can have is reflected in the southwestern region which has a well developed cooperative structure (UCCCU) that has enabled farmers in the region to negotiate for better prices with the SALL and other buyers (from both the formal and informal sector). As a result of UCCCU's effective lobbying, farm gate prices have risen from the UGS 100 per litre of milk that prevailed before the associations wer formed, to the prevailing high farm gate prices of 500-600 UGS per litre. Additionally a price floor of 300UGShas been fixed with SALL.

Also, through cooperatives and associations, dairy farmers have invested in milk cooling facilities thus increasing access to distant markets. Investors will therefore find well organized farming communities, easing access to collection of milk, payment and provision of support services.

2.1.4 SWOT analysis

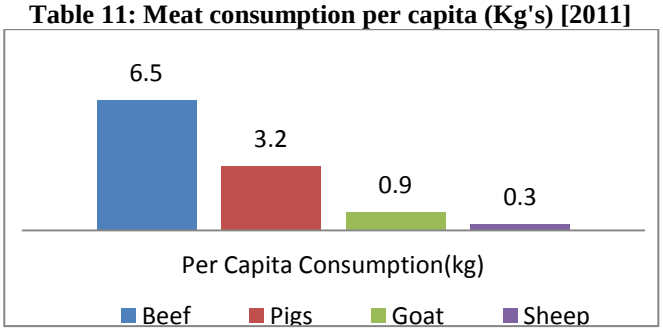
Strengths	**Weaknesses**
• Political stability in the country • High priority area of GOU • Organized dairy cooperative in the highest producing area (south western milk shed). • Favourable climate with available natural pasture. • Dairy processors association. • Existence of dairy standards & legal regulatory framework. • Affordable labour • Increasing number of milk transporters • Increased number of processors	• Seasonality of production (wet season vs dry season) • Low productivity (low genetic potential, inadequate nutrition & poor animal health) • Low rate of adoption of modern animal husbandry practices. • Inadequate cold chain infrastructure for collection of milk (central, eastern & northern regions) • Unavailability & inaccessibility of essential services (extension, financial, input supply, & business development). • Young producers' associations &cooperatives (central, eastern mid-western & northern milk sheds). • No specialized dairy animal breeders • Insufficient processing capacity • Large 'informal' sector • Limited facilitation of regulatory agencies. • Low per capita consumption of milk & other dairy products • Insufficient skilled human resource (dairy experts & technologists)

	• Poor infrastructure – roods, water for production, irregular power
Opportunities	**Threats**
• Potential local market • Availability of regional export market • Appropriate technology • Modern processing technology • Increased income from dairy products • Growing middle class	• Disease outbreaks • Regional political instability • Inflation • Unfair trade – competition from subsidized products

2.2 Beef Sub Sector

The livestock sector comprises beef, pigs, goats, sheep and poultry (which is covered separately in this study). This section however looks specifically at beef for the following reasons: (i) Besides beef and piggery, at 6.5 and 3.2 kg/person/year, all other meat types (goat and sheep) have very low levels of per capita consumption (see table 11)- pointing to limited demand and are therefore deemed of low attractiveness for investment purposes.

Table 11: Meat consumption per capita (Kg's) [2011]



While piggery has a significantly higher level of per capita consumption in comparison to goat and sheep, it is deemed unattractive primarily due to the high risk of the lethal and untreatable African Swine Fever that is endemic in Uganda. Our field work revealed several examples[43] of 'commercial' and small scale (household) piggery farmers whose stocks had been wiped out by the highly infectious incurable viral disease. This when factored together with the stiff competition to be expected from the indigenous low cost[44] breeds raised by small holder farmers makes investments in piggery extremely risky and best left under the current extensive small holder production systems.

2.2.1 Demand Analysis

Local Demand

The per capita consumption of beef in Uganda is currently estimated at just 6 kg/person/year, a level much lower than in other African countries such as Kenya and South Africa at 12 and 14kg/person/year respectively. The actual demand level for meat products is currently unknown[45]. However a recent study into the beef sector (2012) provides the following indicative consumption figures:

Table 12: Per Capita meat consumption [2012]

Description	Total no. Slaughtered	Equivalent Weight of Carcass (tonnes)	Full "Carcass" Weight (kg)	Human Population	Per Capita Consumption(kg)
Beef	2,084,000	229,240	110	35,000,000	6.5
Pigs	1,885,000	113,100	60	35,000,000	3.2
Goat	2,750,000	32,100	11.7	35,000,000	0.9

[43] Out of the 4 'commercial pig farmers' interviewed 50% had suffered total stock wipeout due to African swine fever. In addition, out of the 10 small scale- household farmers interviewed, over 70% expressed having been adversely affected by swine fever.

[44] Indigenous pigs raised at small holder level are fed on scraps and leftovers, and often roam in search of food. Due to these minimal production costs they can be offered to market at relatively low prices.

[45] There is a lack of accurate demand level analysis determining the size of the demand for meat products. Current estimates therefore rely on production volumes (i.e. number of animals slaughtered) to determine current demand.

Sheep	648,000	9,072	14	35,000,000	0.3

Source: Adapted from EU Beef report 2012, amended with input from own survey.

There is a general consensus among industry experts[46], although not fully quantified, that demand exceeds current levels of supply. This growth in demand is explained in large part by the following drivers: (i) population growth – at 3.3 percent per annum, one of the fastest in the world; (ii) increasing urbanization - (Kampala: 1980: 450,000, 2012 estimate: 1.5 million); (iii) increased purchasing power; and (iv) changes in consumption habits – steady rise in consumption in the premium meat segment (hygienically handled meat and meat products normally sold in supermarkets). The slower growth in supply relative to demand is exacerbated by the current beef production systems - largely subsistence in nature with a very slow transition to commercial production. Hence, there is an increasing possibility that Ugandan livestock producers will be unable to satisfy the growing demand for beef and investments in modern commercial beef cattle farms will need to rise to this challenge. The price elasticity of demand for meat is estimated to be 1.01 (MOFPED 2004, ILRI 1995[47]).

Table 13: Per capita consumption of meat products

Product	Urban Consumption (Kg)	Rural Consumption (Kg)	Price Elasticity of Demand
Beef	9.04	6.05	1.01

Source: MOFPED 2004 Household survey

A relatively small proportion of beef is sold within the capital city Kampala. The size of this market is estimated at about 15,500 tonnes per year[48] . This accounts for only 7 percent of the total meat consumption. Of this, the premium segment accounts for about 16 percent of total inspected meat market in Kampala, and is estimated to be around 2,500 tonnes per year[49].

The rest of the beef consumed (95%) is spread across the country- retailed largely by the vast network of roadside and market stall butcheries.

At the retail level[50], the beef industry can be categorized into two key channels:

- The Mainstream Market
  In Uganda, the majority of meat consumers are served through the ***roadside and market stall butcheries***. With a throughput of over 130,000 tonnes, these outlets handle about 75-80 percent of all meat retail sales- in effect making this distribution channel the backbone of the retail sector. There is an estimated 5,000-7,000 such outlets spread out across the country. There is minimal processing at this level and these butcheries primarily sell cuts straight off the carcass. A summary of the price level is provided below:

[46] Derived from discussions with processors, abattoir staff, ranchers, and beef breeders and Beef Union management
[47] ILRI reported in the 'livestock policy analysis' done in 1995 across Africa, that income elasticity of demand for beef was between 1.0 - 1.2 and that price elasticity of demand for beef was at -1.2 to -1.3
[48] Based on figures for animals slaughtered provided by veterinarian inspectors working for the main slaughterhouses. (EU Beef study 2012)
[49] Based on information from *Quality Cuts/ Fresh Cuts*, (the market leader with about 85% of the premium beef market in Kampala)
[50] These are discussed in more detail in the actor analysis

Table 14: Prices for meat cuts at road side butcheries & market stall butcheries [May 2012]

Product	UGS/kg	US$/kg
Meat with bones	8,000	3.20
Boneless meat	12,000	4.80
Fillet	15,000	6.00
Liver	12,000	4.80
Intestines	5,000	2.00

Source: Adopted from 2012 EU Beef Report and own survey

The vast majority of consumers will continue to demand relatively low-value, minimally processed meat, as the average *per-capita* income will not allow the typical household to shift its consumption towards premium meat products. The roadside butcheries will therefore remain a relevant outlet within the meat supply chain.

The fact that these 'informal' butcheries and distribution channels form a significant part of the beef supply chain in Uganda implies that any planned investments in this sector need to take into account the prevailing dynamics. Potential investors should have a clear idea of how they can operate taking into consideration the importance of the informal network of butcheries supplying meat to the majority of consumers.

- The Premium Market

  The premium segment accounts for about 16 percent of the total meat market in Kampala[51], and is served by a growing network of ***modern butcheries and supermarket butcher stands.*** These outlets are attractive to consumers with a higher income and who prefer meat that is offered in a hygienic and attractive way. These outlets provide a range of retail cuts, and processed meats. Prices are at a premium in comparison to those in the roadside and market stall butcheries (the mainstream channel). A summary of the prices within this channel are provided in tables below:

Table 15: Prices for meat cuts at modern butcheries in Kampala[May 2012]

Product	UGS/kg	US$/kg
Fillet	16,000	6.40
Minced meat	10,000	4.00
Oxtail	7,000	2.80
Roast beef	13,500	5.40
Liver	12,000	4.80

Source: Adopted from 2012 EU Beef Report and own survey

[51] Meaningful demand for premium beef is nonexistent outside of Kampala

Table 16: Prices for retail cuts and processed meat at supermarkets in Kampala [May 2012]

Supermarket NAKUMATT

butchers stand, fresh meat	UGS/kg	US$/kg	Freezer	UGS/kg	US$/kg
chicken fillet	26400	10.55	chicken sausages	22000	8.80
pork shops with fillet	24000	9.60	frozen chicken	13800	5,50
pork roast	24000	9.60	chicken fillet	13200	5.30
beef fillet	22800	9.10	wings and breast	12500	5.00
roast veal	20900	8.35	minced beef	11300	4.50
pork shops	19900	7.95	beef sausages	10500	4.20
pork minced	17400	6.95	pork sausages	8900	3.55
roast beef	17000	6.80	chicken liver	5000	2.00
whole chicken	14400	5.75			
chicken legs	14400	5.75			
chicken wings	12500	5.00			
minced beef (best seller)	12000	4.80			
t-bone steak	15000	6.00			

Source: Adopted from 2012 EU Beef Report and own survey

It is suggested by industry experts, that the growth of the premium channel is already constrained by a lack of supply. With steadily improving standards of living, and a growing middle class population, that percentage is expected to increase over the next 10 years. The forecast for the Kampala premium beef market could be assumed to be above 3,300 tonnes in 2017 (EU Report 2012). The gap in forecasted yearly demand of 800 tonnes[52] leaves space for an additional daily production of around 2.5 tonnes of premium beef products. This is validated by Fresh Cuts,the leading meat processor in Kampala, who has a daily demand for about 9 tonnes but can only receive a supply of 6 tonnes.

Demand for premium meat is not only supported by the upper middle class community, but also by several other quality markets including: Hotels, fine dining restaurants, institutions, and upcoming companies- particularly the oil companies[53].

From a demand perspective the premium segment appears attractive for investment particularly in the area of processing (premium cuts, sausages, marinated meat, minced meat,).

Exports

Exports of live animals and meat products are limited because of the prevalence of diseases, lack of abattoirs meeting export standards and the high demand of the national market. Only *Fresh Cuts* has regular substantial exports (about 30 tonnes per week) to South Sudan and DR Congo via a contract to supply peace keeping troops of the UN in those countries.

Although export to highly developed markets (EU, USA) will remain unfeasible for the foreseeable future, the export potential exists to neighbouring countries due to the comparative advantage of Uganda in producing meat including adequate pasture almost all year round, strategic central location within Eastern

[52] Projected 3,300 tonnes in 2017 less current 2,500 tonnes in 2012
[53] Expected to employ at least 5,000 well paid employees.

Africa and compliance with the Arabic norms of Halaal among others. Live animals export has increased lately with the major export markets being Kenya, Tanzania, Rwanda, Southern Sudan and D.R. Congo. Southern Sudan is emerging as the major destination for Uganda's meat products and live animals. Uganda is the only country that allows live animals exports in East Africa. The strong export demand for live animals has however constrained the supply of choice animals to abattoirs and meat processing facilities. Uganda's livestock export earnings grew from an estimated US$ 5.75 million in 2004 to about US$ 10.4 million in 2008 of which meat products are one of the major export earners.

Table 17: Livestock and livestock product exports by value '000 US$ [2004-2008]

	2004	2005	2006	2007	2008
Live Animals	131,000	85,000	31,000	1,711,000	2,109,000
Meat & Meat Products	451,000	831,000	469,000	261,000	530,000
Dairy Products & Birds Eggs	306,000	432,000	306,000	668,000	4,990,000

Source: Uganda Bureau of Statistics, 2009 *(note that the huge increase in Dairy products and birds eggs in 2008 is due to previously understated figures that were corrected by the 2008 livestock census.*

2.2.2 Supply Analysis

Beef production systems

Uganda's beef industry largely relies on indigenous cattle genotypes raised under extensive management systems in the rangelands. Cattle are the main source of meat in the country. Improved cattle breeds are kept in very small numbers under intensive management, mostly on small scale and medium sized ranches, while the indigenous breeds are mainly kept under extensive systems. Beef breeds of commercial producers are Boran, Bonsmara, Brahman, and crosses of Boran & Ankolé, Boran & Zebu and their Holstein crosses. Most slaughtered animals are culled animals reared on small rural mixed farms. Few animals origniate from specialized beef ranches (about 2% of cattle). The annual cost of maintaining a farm enterprise for meat production, based on local livestock production systems, is low for most of the beef supplies (small holders represent 94% of the national herd). The fact that the animals, mostly female, produce both beef and milk (the cost of maintaining is shared between the two products) means that they can be offered in the market at a lower cost. These animals are usually old animals having gone through their productive cycles and yield low quality beef and cuts.

Livestock productivity under the smallholder extensive management systems is low with a weaning rate of 46 percent as compared to 70 percent or more in local ranches[54] Productivity of cattle enterprises has been increasing over the past years due to improved production systems and techniques, but still falls below increasing demand for meat.

The inherent features of indigenous livestock are survival rather than productivity, hence their small body size. Factors such as diseases, parasites, inadequate nutrition and water scarcity in the dry season, coupled with their small body size and low milk yield, mean that they grow slowly and often attain market weights at only 5 years of age or more. This presents opportunities for investing in faster maturing breeds that can result in a faster rate of off take to plug the ever growing gap in demand for beef animals.

The traditional meat value chain is typically based on the principle of one-off transactions, rather than on-going relationships. For instance in 2008, a census by Uganda National Bureau of Statistics recorded about 13 million heads of cattle, however less than a quarter of this number was put up for sale meaning that

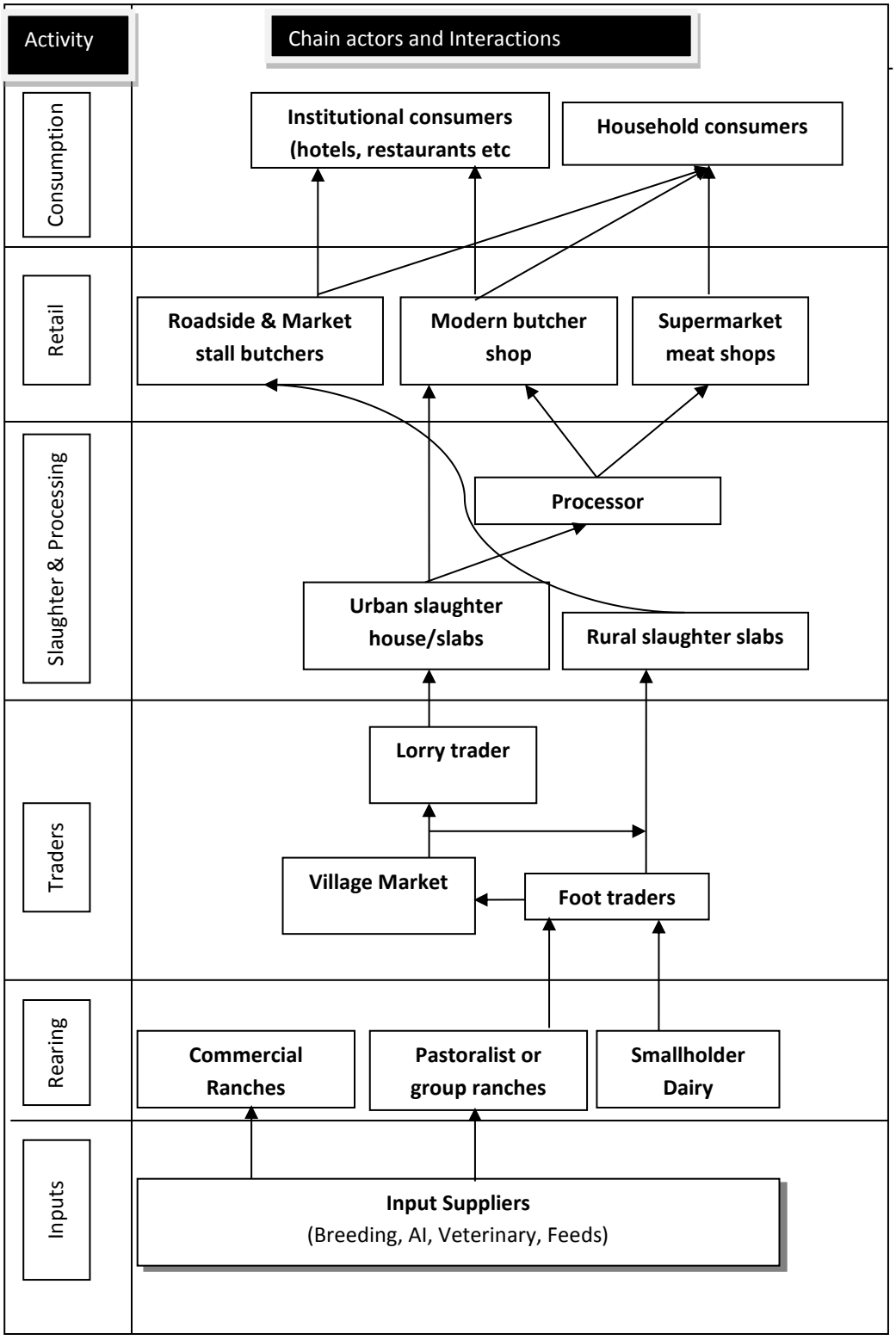
[54] Weaning rate is the number of animals weaned divided by the number of animals born times 100%. The figure is important to measure productivity as it determines how many animals can be sold in a year taking into account replacement of breeding stock.

the supply of beef is and will continue to be erratic. Carcass weights are also low ranging between 100 kg - 130 kg and at approximately 45 percent of the live weight.

2.2.3 Actor Analysis

The beef sub-sector value chain segment is composed of beef production, beef collection and storage, processing into various products and the offering of the processed beef and other beef products for sale to the final end-user

Figure 8: Beef Value Chain Map



Processors

Formal meat processing is a near monopoly with a single company dominating the market for packaged retail cuts and processed beef: "Quality / Fresh Cuts" company offers a full range of meat products (both from beef and pork, small quantities of poultry meat): prime cuts, plastic packed retail cuts, sausages (hot dogs, boiled sausages), ham, minced meat both frozen and fresh etc. With a daily throughput of 11 tonnes of fresh meat (6 tonnes of beef; 3 tonnes of pork, 2 tonnes of chicken) the company covers around 85 percent of Kampala's processed meat market. To a minor extent, there are a few (less than 10) other smaller competitors to Quality Cuts/Fresh cuts operations; the main ones among these being "Sausage King" and "Your Choice" with estimated daily production of 300 to 500 kg of minced beef, beef sausages and pork sausages. The two companies market their products to supermarkets around Kampala.

The table below provides an example of the gross margin calculation for a 2.7 tonnes per day production of processed beef, processing a combination of packaged retail cuts, sausages and minced beef among others.

Table 18: Indicative Margins Analysis for Meat Processing [2011] (UGS)

purchase of carcasses	**18.000.000**
Transport	0
rLabour cost	909.900
Running costs	4.050.000
Investment costs	1.379.700
Total processing costs	24.339.600
Margin processing	5.360.400
Price ex factory	29.700.000
% margin /d	**22,02**

Source: 2012 EU Beef Report

One of the major challenges facing the beef cattle marketing and value chain has been that the competitiveness of these firms in the domestic and export markets has been limited by the underutilization of the processing capacities. Live animal supply is inadequate and, as a result the existing meat processing facilities operate at less than 50 percent of their operational capacities. This has increased the fixed costs of operation thereby decreasing the processors competitiveness in the domestic and export markets. Overcoming the constraint of supply shortage of quality live animals requires, among other things, understanding the livestock producers' marketing behavior. As already mentioned, many smallholders do not directly participate in the livestock market. Even for those who participate in the market, the size of transaction (sale or purchase of cattle) is very small. This is because most small holders keep livestock to complement the subsistence nature of their livelihood rather than for commercial purposes. Livestock are therefore only sold when an urgent need arises (e.g. an emergency to pay school fees, raise money for medical expenses etc.) or when culling animals that are deemed no longer productive (e.g. old female animals) The implication of limited market participation is that the prevailing livestock production systems do not provide regular and adequate market supply of quality live animals and the supply is quite inelastic (responds slowly to increased demand signals). This situation adversely affects the efficient utilization of meat processing capacity and hence their competitiveness in the domestic and export markets.

Butcheries

This section analyses in greater depth the retail channels identified in the demand analysis.

At the retail level, meat products are delivered to the customer through 3 primary channels: (i) the small (road side) butcheries (ii) modern butcheries (iii) supermarket/premium butcheries.

Road side butcheries

With an estimated 5,000 to 7,000 so called road side butcheries[55] (small butcheries) and an estimated throughput of 170,000 tonnes of beef carcasses per year (75-80% of meat sold), this distribution channel forms the backbone of Uganda's beef supply chain. Even though almost all of the butcher shops show remarkable deficits in basic meat hygiene it is likely that they will remain the main source for meat purchases over the next decade or so. These butcheries are therefore worth consideration when it comes to investments and interventions in the value chain.

Figure 9: Roadside/Market stall butchery

The usual business model for small butchers is based on an estimated throughput of one to two quarters of a cattle carcass per day. This limitation is due to the absence of coolers or cooler showcases forcing the butcher to sell meat the same day when bought at the slaughter house or abattoir.

Figure 10: Meat delivery from abattoir to small scale butchers

The butchers in Kampala buy their meat from traders at the slaughter houses and abattoirs or buy live animals and take them to the slaughter house. Due to the absence of any refrigeration in roadside and small scaled butcheries the butchers prefer to buy in relative small quantities which can be sold during one day without keeping meat overnight. The meat is bought early in the morning, brought to the shop by small motorbikes with wooden boxes[56] and cut in parts to be displayed. The consumer chooses the part of the meat he wants to buy that is then packed in plastic bags.

Indicative margins made by the roadside and market stall butchers are provided in table 19.

[55] EU beef report 2012

[56] This transportation method has been identified to be very unhygienic and poses great health risk to consumers

Table 19: Indicative Margins Analysis for Small Scale Butchery for Beef [2012] (UGS)

purchase of carcass excl offal	**1.137.500**
Meat transportation	20.000
Shop attendant	5.000
Rent/d	20.000
Packaging materials	500
Utilities Water, electricity	1.000
License	160
Misc.	1.000
Total retail costs	1.185.160
Margin /d	214.840
Av retail price butcheries	1.400.000
% margin /d	**18,13**

Source: Adapted from 2012 EU Beef Report

The main hygienic problems of small scale butcheries originate from the lack of cooler facilities and from unhygienic handling of meat. In particular the butcher blocks commonly used in small butcheries, are causing the spread of bacteria and contaminants due to soft wood being used for chopping the meat for the consumer. It is also common practice by butchers to tamper with weights so that the consumers receive less product than they pay for.

Modern meat outlets

In contrast to the enormous number of road side butcheries the number of modern butcheries is rather small for Kampala (estimated at less than 30) and almost zero in the districts. Those modern butchers are aware of maintaining quality and hygiene requirements and buy their carcasses from the UMI abattoir, which is able to provide minimum food safety standards to the client.

Modern butcheries follow a different business model than road side butchers: they use modern standard equipment for their production and are able to keep meat for a period of time under safe conditions (freezers), bridging gaps in carcass supply and/or demand. Modern butchers supply consumers with slightly higher income and a heightened awareness for food safety. They also supply a number of restaurants, hotels, canteens. The weak point for them is the interruption within the cold chain when delivering chilled meat to consumers in un-refrigerated vans. Prices for a modern butchery are given in table 15.

Supermarket butcher stands

Kampala accommodates a number of shopping malls and large super markets constructed and equipped according to international standards: LUGOGO Mall (with Shoprite super market), GARDEN CITY (with Uchumi super market), NAKUMATT, QUALITY SUPERMARKET, CAPITAL SHOPPERS and TUSKYS, are malls that accommodate supermarkets with dedicated European style butcher stands - around 1,500 sqm equipped with cooler show cases, fully equipped butchery in the rear etc. SHOPRITE for instance has a glass wall for better transparency of the meat preparation. All stands offer the full range of retail cuts plus a number of imported products (Italian salami and ham specialties).

Prices for processed meat in supermarkets don't vary much due to the dominance in the market by the leading processing company "Quality Cuts" that caters for this higher income segment of the population. The prices are typically significantly higher in comparison to those in road side butcheries.

The consumer with a higher income prefers meat that is offered in a hygienic and attractive way, with a broad variety of retail cuts on offer and is apparently able and willing to pay much higher prices for that type of product.

According to the operators of butcher stands in supermarkets, minced beef is the *best seller* among beef products indicating that there many consumers, irrespective of income levels, prefer to purchase minced beef in supermarkets rather than roadside butcheries . Minced beef is obviously the "cash cow" for operators attracting consumers to buy from supermarkets. The price of 12,000 UGS per Kg is probably the level from which customers switch from roadside butcheries without refrigerator to more hygienic establishments. The price difference of around 4,000 UGS per kg for minced meat (compared to road side butcheries) is the premium the consumer is willing to pay. This is an indication that consumers are willing to pay more for meat that has been processed in a hygienic manner and offers opportunities for expansion in the meat processing and packaging sectors. Current meat prices are about 480 percent of those of 11 years ago, or 360 percent on a US$ basis (2001: 2500 UGS/kg; 2012 12.000 UGS/kg).

Abattoirs/Slaughterhouses

There are three abattoirs in the city that feed the capital market: City Abattoir (KCC), Ugandan Meat Packers Ltd. (UMI) and Nsooba Slaughterhouse Ltd. A number of modern slaughter facilities have been planned, but so far none of these plans have resulted in an operational modern abattoir.

Table 20: Overview of abattoirs in Uganda

National abattoirs	Installed capacity (est., hd)	Daily throughput (animals)	Business model	Technical and hygiene status
City Abattoir Ltd., Kampala (KCC)	100-150	250-300	Service slaughter	Overstrained, hygienic risk
UMI Ltd., Kampala	150-200	30-100	Commercial slaughter and meat processing	Underutilized, basic hygiene standard
Nsooba Slaughterhouse Ltd., Kampala	50 est.	150-200	Service slaughter	Overstrained, hygienic risk
Soroti Meat Packers Ltd., Soroti	Unknown	Unknown	Slaughter, processing, canning	Not operational, building fit for further use

Source: 2012 EU Beef Report and own survey

Given that the larger population of Kampala is currently estimated at 1.5 million inhabitants, the KCC Abattoir operates above its installed capacity by between 200-300 percent. A high percentage of the animals presented for slaughtering (between 60 and 80 percent) are females. This is an indication of the fact that Uganda cattle keepers are not specializing in beef production but dispose of animals that they view as no longer being productive

The business model of abattoirs in Uganda is a service based model, i.e. they charge a fixed price for slaughter services. Slaughter fees are relatively low i.e. about UGS 15,000 per animal (see indicative margins of the existing service abattoirs in the table below). The traders incur all the costs when they deliver animals to the abattoir including labour and halaal costs. They earn all the revenues on the sale of the carcass and the by-products. The financials of this model are illustrated in table 21 below.

Table 21: Indicative margins for traders using service abattoirs UGS [2011]

Purchase of slaughter animal	**1.100.000**
Meat inspection	0
Slaughter fee	15.000
Man power	1.000
Halal slaughter	5.000
Other costs	5.000
Total costs slaughter	1.126.000
Revenues from by-products	-263.000
Margin/d	11.000
Av price ex abattoir incl offal	1.400.000
% margin /d	**0,98**

Source: Adapted from 2012 EU Beef Report

Based on the above analysis, the current business model cannot justify a multimillion dollar investment in a standalone abattoir. This has been emphasized by the EU beef study done in 2012.

A commercial abattoir has the potential to deliver a better return on investment, if it purchases animals itself, and sells good quality carcasses to the market. The table below highlights the potential margins from such an investment.

Table 22: Indicative margins for commercial abattoirs UGS [2011]

Purchase of animals	**110.000.000**[57]
Transport	3.000.000
Meat inspection	0
Running costs	5.250.000
Investment costs	5.750.000
Labour cost	7.000.000
Total costs slaughter	131.000.000
Revenues offal	-26.300.000
Margin abattoir	15.300.000
Price ex abattoir	120.000.000
% margin /d	**11,68**

Source: Adapted from 2012 EU Beef Report

However, combining a commercial abattoir with additional beef processing capacity would increase profit margins further and would meet an existing and growing demand for local and regional premium beef products. The Indicative margins of meat processing facility (based on 2.7 tone daily capacity) are provided in table 23 below.

Table 23: Indicative margins for meat processing UGS [2011]

Purchase of carcasses	**18.000.000**
Transport	0
Labour costs	909.900
Operational costs	4.050.000
Investment costs	1.379.700

[57] A 10% premium on animal purchase is assumed as this would guarantee supply

Total processing costs	24.339.600
Margin processing	5.360.400
Price ex factory	29.700.000
% margin /d	**22,02**

Source: Adapted from 2012 EU Beef Report

Traders

The livestock marketing structure follows a multiple-tier system, in which different actors are involved in the process of buying and selling of beef cattle in the market system .The main actors at farm-gate are local farmers and rural traders who transact at farm level with very minimal volume, just a couple animals per transaction irrespective of species involved. The small traders then bring their livestock to the local markets to sell in secondary markets or truck to terminal destinations in Kampala. In the secondary markets, both smaller and larger traders operate and traders and butchers from terminal markets come to buy animals.

A secondary market normally has a larger throughput than a primary market. Traders come with Lorries and hope to buy a full load for immediate transportation to large centres such as Kampala. In the terminal market, big traders and butchers transact larger number of mainly slaughter type animals. From the terminal markets, slaughterhouses and slabs, meat reaches consumers through different channels.

Within the beef value chain most of the trade is conducted informally. Sometimes, an animal can pass through many traders before reaching its final destination. Middlemen are a specialized group of traders with established contacts and often employ others as they go to the rural areas to look for livestock. It is a form of employment created by informal trade system. Even if farmers took the livestock directly to big towns, the same farmers would still pay for transaction costs which the middlemen pay for. Established processors such as Quality Cuts for instance engage their own middlemen/traders who scour the rural markets for a select number of animals of specific size and age group. These traders are therefore quite valuable to the operation of large scale processors such as Quality Cuts in ensuring that the latter receives an adequate and right type of animals.

Farmers

Most cattle sales are related to farm households' cash needs and commercial orientation of the household. The main livestock production systems include: (a) extensive systems such as communal grazing, transhumance[58], semi-nomadism and agro-pastoralism which forms 90 percent of cattle production; (b) intensive commercial systems such as beef ranching and zero grazing for dairy cows: and (c) intermediate systems (emergent farms with some supplementation, some improved fodder). Cattle are raised throughout all regions of the country especially along the cattle corridor, usually by smallholder farmers. Unofficial cross-border trade sometimes occurs on the eastern border with Kenya (Akilu, 2002) and is especially emerging to be vital towards the North with Sudan. Due to informal nature of their enterprises, it is difficult to determine the costs of production considering the long time to maturity.

Maximization of returns at this level of production is minimal due to low genetic potential of the indigenous breeds coupled with the inadequate management capacity of the rural farmer and poor market infrastructures. Small scale cattle fattening at the village level provides an opportunity to improve on the profitability and enhance the capacity of the local communities in cattle production and management. Simple home based fattening activities have an opportunity to significantly increase the profitability of the smallholders at this level especially where collective action groups of smallholders are

[58] the seasonal movement of people with their livestock between fixed dry and wet season grazing areas-which is opposed to nomadism where the movement patters are irregular

involved. Mobilization of chain actors into associations will accelerate delivery of financial services and others critical services such as capacity building e.g. training, technology transfer etc.

Women can particularly benefit from such activities, especially in areas where women's groups can establish beef, goat and or sheep fattening. Rearing of small animal stock is traditionally carried out by women in many agro-pastoral areas and there is great potential to improve the supply of beef production in these systems under a fattening scheme.

A project implemented through, 'Improving Productivity and Market Success (IPMS) in Ethiopia for instance by the Government of Ethiopia and the International Livestock Research Institute (ILRI), where sheep fattening cycles have been set up and are run by women, has enabled farmers to increase the production of sheep and goats, with larger numbers of healthier animals fetching higher prices when they (or their related products) are sold in market.

Commercial Ranchers

About 165 large ranches account for about 2 percent of cattle in Uganda. These are large-scale commercial systems practicing modern animal husbandry methods. The largest ranches are up to 25,000 ha and have up to 7,000 cattle, with a capacity to increase the number of cattle substantially. The ranches are owned partly privately, partly by business corporations. Boran is still the most popular imported beef breed in Uganda, especially for the commercial ranching sector. Constraints in breeding are the lack of improved bulls, inappropriate AI services and the lack of on-farm herd books for animal event recording (births, deaths).

Table 24: Selected Ranches in Uganda

	Name of Company	Location	Estimated number of Cattle
1	Kisozi Ranch	Mpigi	5,000 – 8,000
2	Namalire Mixed Farm and Cattle Ranchers	Nakasongola	6,000
3	Incafex Ranchers	Nakasongola, Sembabule, Luwero and Mubende	7,000
4	Shuuku farmers	Bushenyi	5,000
5	Kisombwa ranching scheme	Mubende	5,000
6	Itendero farmers	Bushenyi	2,000
7	Kibwejana	Mubende	2,000
8	Rainbow Ranching Scheme	Sembabule and Kiruhura	6,000

Source: Uganda Beef producers Association (2008)

The cost of a hybrid breeding bull in Uganda is quoted at approximately 1.5 million to 2 million UGS which is a premium over beef prices. Purebred Boran bulls imported from Kenya are reportedly being purchased for 5 million UGS to 7.5 million UGS (2,000 US$ to 3,000 US$). Local Boran bulls are being sold for between 2.5 – 3 million UGS at about 8 months. The investment is being made with the view to selling improved Boran breeding stock, bulls and heifers. This is a positive move to improving breeding quality for beef production in Uganda.

Further, there does not seem to exist efforts at fattening of steers at most ranches, probably due to the lack of steady flow of "immature" (feeder cattle) from the lower potential range breeding areas. Fattening systems have been tried elsewhere and gave good technical results. In Kenya for instance, most livestock are trekked from the arid Northern parts of the country to ranches near the capital of Nairobi or the port of Mombasa for fattening purposes for a period ranging between two months to a year. In an analysis of this values chain, cattle sent directly to Nairobi for slaughter realized a net margin of 9 percent compared

to 23 percent for cattle that were sent to fattening ranches first. The feedlot fattening/finishing systems vary according to the principal feed ingredient used: grass, fodder, silage, grain, or industrial by-products.

The problem as it stands now however is that there is limited availability of suitable feeds for feedlot fattening and also a high cost of these feeds. This scenario presents opportunities for investments in both ranching and feedlot fattening and also in feed production. Since processors like quality cuts also purchase carcasses by the live weight, (ranging from UGS 5,000 per kg for an Ankole to 5,800 per kg for Boran), animals of higher weight and superior breed will definitely result in higher returns. The sugar industry's by-products in form of molasses are an excellent livestock fattening ingredient and it can be found in abundance from the many sugar factories in Uganda.

2.2.4 SWOT analysis

Strengths	**Weaknesses**
• Existing tradition in cattle keeping • Extensive rangelands well-suited for livestock keeping and pasture production • Comparatively favourable climatic conditions (bi-modal rainfall and no aridity) • Low prices of live animals at source • Generally low labour costs • Good domestic market for meat and meat products • Existing export-quality processors • Multilateral and bilateral support (e.g. AfDB, Norad) • Favourable foreign investment policy • Good veterinary faculty, skilled veterinary professionals • Clear and reliable drug import and marketing system	• Subsistence nature of production (irregular selling of few and often old animals) • Low (meat) productivity of indigenous breeds • Lack of knowledge of specialized beef ranching /farming for most smallholders • Poor and inhumane animal transport • Slow reaction to outbreaks and control of infectious animal diseases • Lack of a modern abattoir that can comply with export standards • Market standards are not established (carcass classification) • Weak linkages of primary production with markets Most of population are not yet 'quality' conscious.
Opportunities	**Threats**
• High demand in the region (Sudan, Kenya, DRC, Middle-East and North Africa) • Fast growing local consumer market through growth of population and per capita income • Exploitation of existing deficits of beef products in the regional market (esp. Kenya) using comparative advantages of EAC and COMESA arrangements • Relatively less stringent sanitary requirements for regional export destinations • Increase carcass weight and productivity through investments in modern production techniques, breeding and commercial ranching systems	• Poor enforcement of rules and regulations • Widespread sales of fake inputs like drugs • Weakness in infrastructure, utility supply and access to remote production areas • Role of wildlife and pastoral animals in the spread of animal diseases and zones • Competition of fodder production with food and cash crop production • Natural disasters (droughts and conflicts in Northern Parts) • Limited support from financial sector

• Investments in modern abattoirs • Investments in meat processing for fast growing premium market • Upgrading of informal butcheries FMO risk capital financing • PSI support (Netherlands) • Potential cooperation with large NGO sector in Uganda Opportunities in animal feed and fodder production	

2.3 Poultry Sub Sector

The poultry sector in Uganda comprises a number of different types of birds including chicken, turkeys, ducks, geese, ostriches and pigeons. Chicken are however the type with the most important economic significance and impact for household livelihoods, as illustrated by the following graph. The analysis on poultry therefore focuses on chicken.

The chicken population is characterized into two distinct breeds: (i) the 'local' indigenous chicken; and (ii) the exotic chicken types. The 2008 livestock census estimated the total number of chicken at just over 37 million birds[59] with indigenous birds accounting for almost 90 percent of the total chicken population. Indigenous birds are raised primarily (97%) by households, each averaging about 6-10 birds. At a household level, chicken provides a source of livelihood to 50 percent of all Ugandan households.

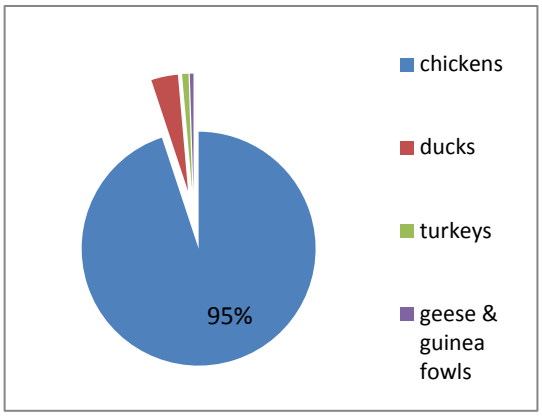


Figure 11: Poultry types in Uganda

Exotic chickens account for only 12 percent of the total chicken population, dominated by broilers (70%), and layers (20%), breeder broilers and breeder layers (10%).

One of the unique features of the Ugandan poultry market is the large trade in live birds. Many Ugandans prefer to buy their chicken live and to have them slaughtered at home. The market preference for dressed chicken is a relatively recent trend but growing rapidly.

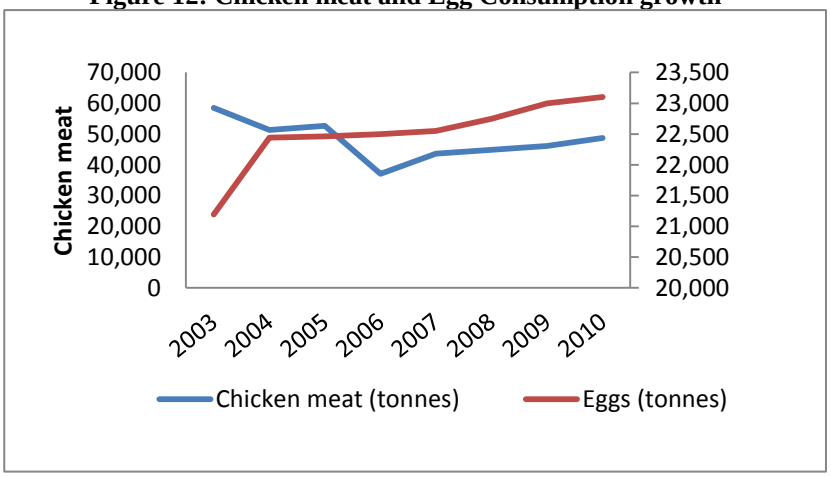
2.3.1 Demand Analysis

Chicken Meat

As for all other livestock categories a recent household survey[60] hasn't been done to gauge the size of demand for chicken meat. Demand is alternately established from the volumes of chicken slaughtered. Available statistics for chicken slaughtered are currently 48,750 tonnes (FAOSTAT 2011) and demand is growing at about 3% per annum. These slaughter numbers imply a per capita consumption of 1.7 kg/person/year[61], which is in sharp contrast to South Africa with a chicken per capita consumption of 32 kgs/person/year[62].

[59] Current estimate for 2012 is slightly over 40 million birds
[60] There was a national household survey in 2009/2010 but this did not capture the detailed household consumption and expenditure of foods and beverages
[61] Calculated using FAOSTAT production figures.
[62] Southern African Poultry Association (www.sapoultry.co.za)

Figure 12: Chicken meat and Egg Consumption growth[63]



Source: FAOSTAT

Demand for chicken meat - as for other livestock products - has been boosted by the major driving forces of population growth, urbanization, increased purchasing power, and changes in consumption habits. However, a significant barrier to increased demand presently remains the high cost of chicken meat on the market in relation to other food items. Chicken meat prices are much higher than those of competing protein sources. This is illustrated further below:[64]

Table 25: Comparison of Chicken prices vs other protein sources (UGS) [April 2012]

Protein Source	UGS/kg	US D
Whole chicken	12,500	6.00
Beef	8,500	3.40
Fish	10,000	4.00
Beans	3,000	2.50

Source: Own survey

Chicken is currently 47%, 25%, and 317% more expensive than beef, fish and beans respectively. Most consumers, being price sensitive, will always prefer the cheaper alternative when looking for sources of protein for their consumption. The growth in the demand for chicken will continue to be constrained at its current price position in the market. A business model that can deliver chicken at a significantly lower price stands to unlock a lot of latent demand. In discussions with most producers the high cost of feed is cited as the primary reason for the high prices.

Prices for chicken have been relatively stable over the years but frequent shortages of feeds have led to some major upward surges of late. The farm gate price of a medium-sized broiler is about 9,000 shillings (US$ 3.60). Looking at the retail prices of broilers, the small broilers are retailed at around 8,000 shillings, medium- sized birds are retailed at 12,000-15,000 shillings per bird, (which constitutes 80% of all chicken retailed) and the very heavy birds are often retailed at about 20,000 shillings per bird.

Table 26: Indicative margins for processed chicken (UGS) [April 2012]

	Per Unit Sold	% mgn
Retail	12,500	

[63] As of April 2012

[64] In most of Europe and North America chicken is cheaper than beef and is therefore the main source of meat protein for poorer sections of those societies, which is the opposite of the situation in Uganda.

Retail margin	***3,500***	***28%***
Farm Selling Price	9000	
Farm Expenses:		
DOC (Day Old Chicks)	(1500)	
Feed	(6050)	
Labour	(40)	
Medicines	(70)	
Charcoal	(110)	
Litter	(140)	
Transport	(50)	
Electricity & water	(100)	
Total Expenses	8,060	
Farm Margin	***940***	***10%***

Source: Own survey

Chicken demonstrates lower price elasticity for demand at 0.62 (see table below) as compared to beef (1.01) and Fish (0.68) which means that an increase in income will lead to a lower growth in the demand and consumption of chicken compared to beef or fish. This again, is largely explained by the high price of chicken which positions it as a luxury product on the market.

Where there is adequate income growth, a huge potential for increased demand exists in Uganda, with its relatively low current consumption levels, high-income elasticity of demand and increased population and urbanization.

Table 27: Per capita consumption of meat products

Product	Urban Consumption (Kg)	Rural Consumption (Kg)	Price Elasticity of Demand
Chicken	1.89	1.76	0.62
Fish	15.79	8.90	0.86

Source: MOFPED 2004 Household survey

Outlook on demand

Looking at how the demand will evolve, we come up with the following indicators:

- The demand for live chicken will remain a significant component of the market for the foreseeable future.
- Consumer demand for processed/dressed chicken is expected to grow rapidly driven particularly by
    i. Increasing urbanization
    ii. Growing number of people living in apartments[65] (with no space for rearing own chicken)
    iii. Changing consumer tastes and preferences driven more by convenience.
    iv. Growth of the supermarket space in Uganda
    v. The increasing proliferation of local fast-food outlets and the evolution of the international franchises (Nandos, Steers, KFC[66]) will continue to provide a market for processed chicken.

[65] There is a growth in the number of apartment complexes which attracts investments in supermarkets
[66] Yum Brands sees 130 new Africa stores in 2012 –report http://af.reuters.com/article/ugandaNews/idAFL5E8D30D120120203

Demand for Chicken eggs

The consumption of chicken eggs is at 491,500,000 (FAOSTAT 2012) which translates to 14 eggs/person/year compared to 145 eggs/person/year for South Africa. This demand is mainly met by eggs from exotic breeds. Eggs from indigenous chicken are perceived to be tastier and they are mostly consumed at home and the few that make it onto the market are more expensive and cater to small niche market.

Regional Exports

At the moment Uganda hardly exports any chicken or chicken products. Records from MAAIF show that only 14, 000 kg of chicken meat (a mere 3% of total production) and about 1.2 million eggs[67] were exported by Uganda during 2011 to DRC, South Sudan, Rwanda and Burundi.

Due to a combination of protectionist laws and unmet local demand, the countries in the region with established poultry industries (Kenya, Uganda and Tanzania) are not keen on importing poultry products and subsequently there is little in the way of exports in poultry products between these countries.

There is a potential market for Uganda's chicken and eggs in DRC, South Sudan, Rwanda and Burundi where the local poultry sectors are not robust due to a number of factors (mostly the very high cost and low supply of chicken feeds). However the market structures in both Uganda and these countries would need more organisation before the full potential of exports can be exploited.

There is also some trade in day old chicks (DOC) largely by Ugachick, the largest breeder in the country. Records from MAAIF indicate that in 2011, 272,600 day old chicks were exported to the region especially Rwanda. However this market does not look sustainable as there are indicators that Rwanda, which is the primary market for DOC, is looking to increase its own hatchery capacity.[68]

[67] According to the Informal Cross-border Trade Survey Report 2009 and 2010, the informal export of eggs in 2010 was estimated to be worth $6.23 million down from $7.59 million in 2009.
[68] http://allafrica.com/stories/201009210852.html

2.3.2 Supply Analysis

Chickens are raised in all parts of the country and the chicken population as at 2011 was over 40 million birds (FAOSTAT). Chicken rearing is an active source of livelihoods and food security for over 3.2 million households. The majority of chicken-owning households (99.2%) own indigenous chickens; in contrast to only (1.2%) who owned exotic chickens.

The highest concentration of exotic chicken is around towns and urban centres especially in Kampala and the neighbouring Wakiso and Mukono districts which is where commercial broiler and layer enterprises are primarily concentrated (see figure below).

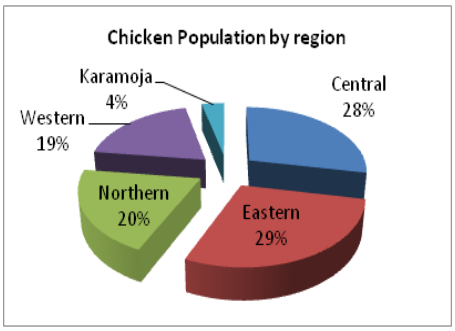
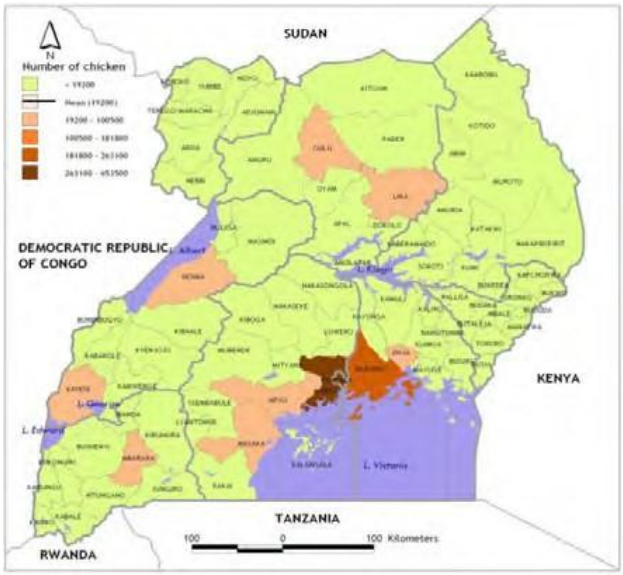


Figure 13: Chicken Population by
Source: 2008 UBOS livestock census

Figure 14 Concentration of exotic chicken



Source: 2008 UBOS livestock census

Chicken production in Uganda is in two distinct categories. (i) commercial and (ii) free-range. There are major differences among these two systems in terms of numbers, types of breeds, biosecurity (practices designed to prevent the spread of disease onto the poultry farm) and management.

Free range system is the common method used by small scale farmers for rearing indigenous chicken and is characterized by the birds scavenging for their own food. This largely accounts for the high concentration of indigenous chicken in the Eastern and Northern regions which are high cereal producing areas, as chicken thrive off discarded cereals during and after crop harvests.

The Commercial system refers to production of exotic breeds and recently hybrids, under intensive confined management of uniform stocks and age-groups for commercial purposes.

While households also play a role in the supply of exotic chicken, supply is dominated by commercial producers. Commercial production is categorized into three broad categories including: (i) small scale farms- with a stocking level of up to 1,000 birds; (ii) medium scale – with stocking level of up to 5,000 birds; and (iii) large scale farmers with a stocking level of over 5,000 birds

There are many common poultry diseases like Newcastle, Gumboro, Avian leucosis, Salmonellosis and Coccidiosis. Though the supply for the drugs to cure these diseases available, at times, their quality is suspect and the costs are often high. Another constraint to disease control is that the diagnostic facilities are in most cases lacking and expensive where they are available. In addition there are very few extension workers trained and skilled in the diagnosis and treatment of poultry diseases.

There are few trained, knowledgeable, and skilled technicians and extension workers. This affects mostly efficient production capacity of hatcheries and the broiler farmers. Should be mentioned in main text

Like the other subsectors in agriculture, the poultry industry is constrained by lack of capital investment. Conventional financial institutions are reluctant to give loans to smaller farmers. There is, therefore, lack of capital at all levels: the commercial growers, breeders, feeds manufacturers, and few processors. Should be mentioned in main text

According to the Ministry of Agriculture, about 30 percent of the total broiler chickens are from smaller scale farms, with poultry population of below 1,000 birds. The larger farms consisting of 1,000 up to 60,000 birds constitute 70 percent.

i. ***Small-scale units.*** The small-scale units are mainly privately owned farms of less than 1,000 layers/broilers. These farms are usually run by women with 1-2 assistants. Much of the labor is supplied by members of the family.
ii. ***Medium-scale units.*** The medium-scale farms are owned by individuals, companies, or farmers' groups, with a capacity of between 1000-5,000 layers or broilers and are, therefore, more specialized in terms of production. This category also includes farms with parent breeding stock with hatching facilities.
iii. ***Large-scale units.*** The large-scale farms are often breeders with hatching facilities and with capacity of over 5,000 (layers and broilers). Major examples of large scale producers in Uganda include Ugachick, Biyinzika enterprises and Bukomo, all of whom are stocked in excess of 40,000 birds.

The characteristics of the above production methods are described in detail in the table below.

Table 28: Characteristics of poultry production systems in Uganda

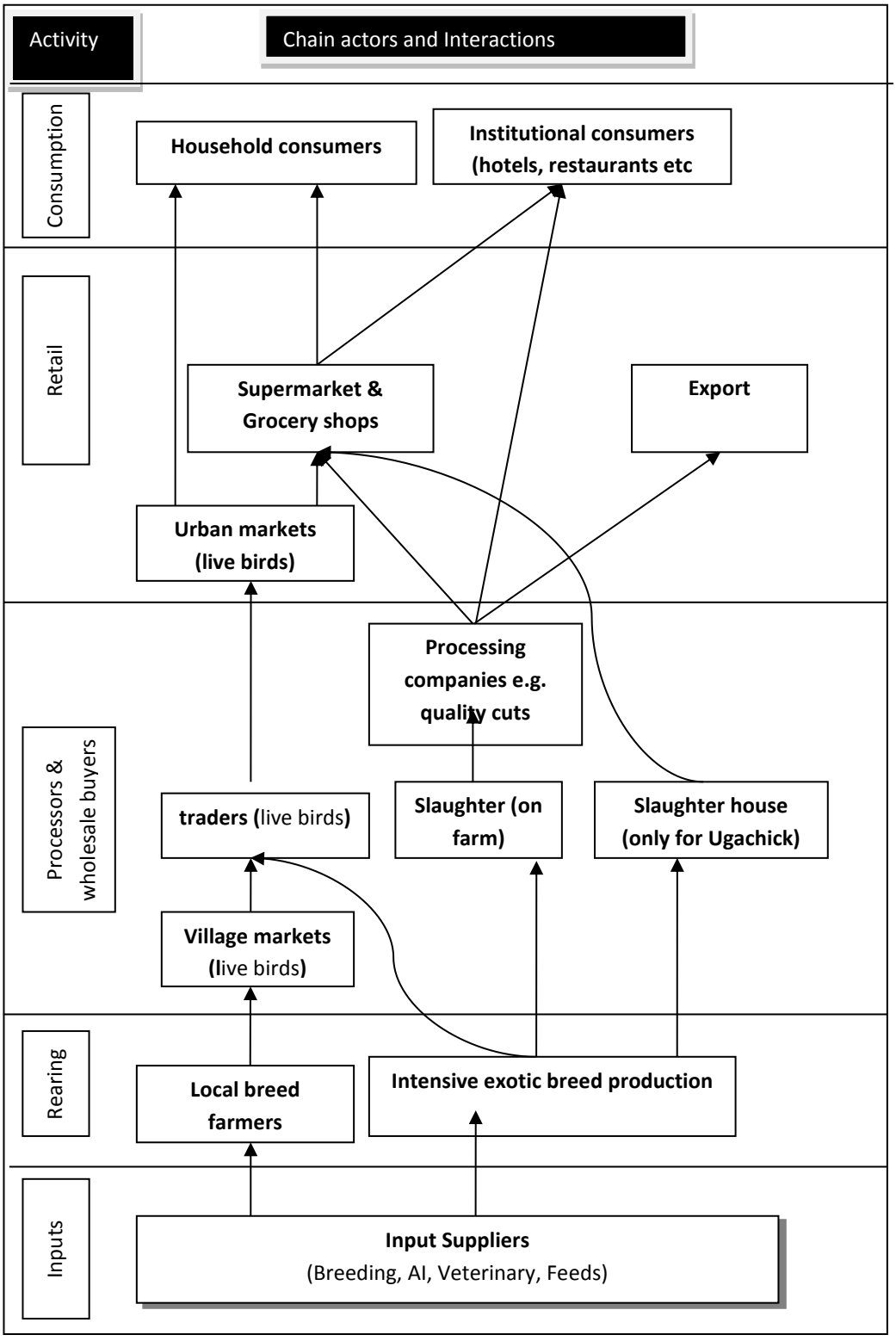
Characteristic	Commercial		Free- range(extensive)
	Intensive	Semi-intensive	
Breed and flock size	Specialized breeds (exotic or indigenous): over 1,000	Specialized and dual- purpose breeds: Up to 1,000	Local indigenous type: <50
Housing	Modern housing, generally with concrete walls and regulated internal environment	Varies from modern houses to simple housing made from locally available materials	Varies from specific houses, owner houses, trees, kitchens to nothing at all
Feed resource	Commercially compounded feeds either by own production or by millers	Commercially compounded, homemade mixtures and free-range	Scavenging and occasional feeding with Home grown grains and household refuse
Health programme	Standard and regular poultry health programme	Disease control and health programme at varying levels	No regular health programme of disease control measures in place
Markets	Varying from organized cold chain system for input-output distribution to informal	Input and output distribution is based on existing trading centres	No formal marketing channels
Infrastructure	Water, electricity and communication available	Modest infrastructure depending on proximity to urban centres	Underdeveloped infrastructure
Product storage and processing	Varies from refrigerated facilities for dressed birds and table eggs to none	Occasional dressing of birds depending on marketing chains	No refrigeration, sales of live birds and eggs

Adapted from: The Structure and Importance of Commercial and Village based Poultry Systems in Uganda, 2007

2.3.3 Actor Analysis

The key actors in the value chain are the farmers, processors, feed suppliers and hatcheries.

Figure 15: Broiler (chicken) Value Chain Map



Processors

Processing of chicken is normally done by the farmers. At this level, this involves slaughter, and dressing. There are minimal cold storage facilities, and such processed chicken is immediately sold off to the supermarkets, groceries and other consumers including hotels and restaurants. There is only one commercial slaughter house in Uganda, and this is owned by Ugachick and is based in Kampala. Some growing producers are increasingly evaluating the option of a slaughterhouse, but these plans are constrained by financing.

For advanced processing, of chicken, currently only Fresh cuts/Quality cuts processes chicken into a range of products including sausages.

Producers of Day Old Chicks (DOC's)

In Uganda, there are 13 commercial hatcheries with a capacity of 510,000 eggs per week. The largest is UgaChick, which produces around 90,000 DOCs per week. Industry experts[69] inform that there are actually several small scale hatcheries in Uganda. Taken collectively there is sufficient capacity for the production of DOC's. The industry is however not producing at full capacity (see further below). In addition, there are significant quality issues by most small scale producers of DOC's

There is a total annual demand of about 15 million chicks of which approximately 11-12 million are produced locally and the remaining 3-4 million chicks are imported. Due to the high import prices of day-old chicks, fewer chicks are being imported, creating a gap in the supply chain. The supply of DOCs is therefore inadequate to meet the demand

The DOC industry is broadly constrained by the following:

- Low capacity utilization due mostly to limited expertise available to small scale hatcheries, and limited resources.
- Poor quality of DOC's especially from the small scale hatcheries
- Lack of proficient management skills
- High costs of procuring parent stock.

Table 29: Major Day Old Chick Producers in Uganda

Name	Installed capacity	Current % utilization	No. of chicks/wk
Ugachick (Magyigye)	120,000	75%	90,000
Bokomo (Seeta)	40,000	70%	28,000
Biyinzika (Seeta)	90,000	27%	24,000
Kagodo (Makindye)	40,000	58%	23,000
Kiyita (Kasangati)	24,000	33%	8,000
Bulemezi (Bweyogerere)	13,000	54%	7,000
Senda (Mukono)	11,000	60%	6,630
Prisons Farm (Kigo)	40,000	15%	6,000
Catholic Secretariat (Nsambya)	12,000	50%	6,000
Gesica (Namugongo)	12,000	50%	6,000
LES (Entebbe)	16,800	34%	5,000
Walusimbi (Kira)	12,000	45%	4,800
Kiwanuka (Kabowa)	4,000	50%	1,600
Others (combined)	9,000	-	-

Source: MAAIF&UBOS 2009

[69] Feedback from a focus group discussion with Poultry stakeholders

The Feed Millers and Suppliers

Poultry feeds constitute the highest cost of any poultry enterprise accounting for up to 70 percent of total production costs. This is what makes the feed millers and suppliers such important actors and the critical bottleneck in the poultry sector in Uganda.

There are four main producers of livestock feeds in Uganda, namely Uganda Feed Ltd, Ugachick, Bulemezi, and Kagodo+ Feeds. The monthly feed output of these companies varies in the range of 600 – 1,500 tonnes[70]. A few of the larger companies have national distribution networks, with agents operating in the larger upcountry towns. There are, however, over 70 small-scale feed producers who are not mechanized and mix feeds manually with rudimentary tools like spades and shovels.

Table 30: Commercial feed producers for poultry

Name	Location	Installed	Present Production
Creda Africa	n.a.	40 tons/wk	Not known
Formula feeds	Kampala	40 tons/wk	15 tons per week
Catholic Secretariat	Kampala	42 tons/wk	6 tons/wk
Engaano- Millers Ltd (NUVITA)	Jinja	60,000MT/year	1,100MT/year
Bulemezi Farm Enterprises	Kampala	32 tons/day	5 tons/day
Ugachick Poultry Breeders	Wakiso	10 MT/hr	6-7MT/hr
Kagodo Farm	Kampala	45 tons/day	20-22tons/day
Hill Top	Jinja	1.5 MT/hr	1.5MT/hr

While feed production has increased from 32,000 MT in 1993 to current production of 80,000 MT[71] (85% of which is poultry feed), present capacity utilization is still low in the order of 40-45 percent of the installed capacity (MAAIF/UBOS 2008). Due to seasonal fluctuations in availability of feed ingredients, the output of feed mills varies substantially making feed supplies, quality, and prices irregular to farmers. Lack of storage facilities for the maize, a major ingredient and the fact that maize is a staple for most Ugandans, aggravates the situation. Quality of the feeds is often inconsistent between various manufacturers from season to season. Generally, there is lack of technically qualified staff in feed processing, and laboratory facilities for regular monitoring of the quality. As a result, many farmers have resorted to on-farm mixing of feeds because it is cheaper. However, quality of such feeds is in many cases compromised because of non-uniform mixing, improper formulations, and use of adulterated feed ingredients as farmers try to minimize costs.

[70] Growth prospects for services within slected agricultural sectors in Uganda 2006
[71] Value Chain Analysis for Poultry in Uganda. 2010 USAID

2.3.4 SWOT analysis

Strengths	**Weaknesses**
• Poultry requires less land than crop agriculture and other livestock enterprises. This is particularly beneficial for peri-urban and urban commercial farmers • Poultry requires relatively smaller capital investment in comparison to other livestock subsector investments • The poultry sub-sector has a higher feed conversion rate than any other in the livestock. It takes 2 kg of feed to produce 1 kg of poultry meat compared to 7 kg of feed to produce a kg of beef • Poultry has short generation intervals and, therefore, quicker returns on investment. Broilers are ready for market within 6 to 8 weeks. Layers start producing eggs at 19 to 23 weeks of age • High potential demand for poultry and poultry products. • Available local and growing regional market (DRC, Burundi, South Sudan and Tanzania) • Government support to poultry sector/farmers (poultry is considered strategic commodity in DISP)	• Constrained supply and quality of day old chicks. • Feeds are costly and their availability and quality fluctuates seasonally • There are many common poultry diseases and though the drugs to cure these diseases are available, at times, their quality is suspect and the costs are often high • There are few trained, knowledgeable, and skilled technicians and extension workers. This constrains productivity at all levels of the value chain. • Constraints in access to finance. This is an acute challenge especially for the smaller scale commercial farmers
Opportunities	**Threats**
• There is a potential for profitable investment in quality animal/poultry feed manufacturing to mitigate the deficiencies present in the sector • There is a high demand for DOC, which makes a commercial hatchery a good viable business venture • There is a potential for a slaughterhouse/processing unit to produce hygienically packaged dressed chicken whose demand is growing • There is potential for an efficiently run well	• Human competition for inputs into feeds. • Possible outbreaks of incurable diseases like avian influenza • Government not following through on support for the sector • Failure by authorities to enforce quality standards in feeds production. • Protectionist laws in neighbouring countries hindering export • ·Unwillingness of financial institutions to offer financing to commercial poultry farmers

capitalized commercial farm to make money	

3) Investment climate

Overview of the economy

The Ugandan investment environment is quite robust, and has been underpinned by a fast growing economy. These gains have been driven by a largely peaceful and stable political environment since 1986. IN 2007, the LRA[72] war was finally declared over, and the northern Uganda region is now also peaceful and is now progressively enjoying integration with the rest of the country, and is also benefitting from the now accessible markets of Democratic Republic of the Congo (DRC) and South Sudan. With this stable political environment, the country has achieved consistently high economic growth, (averaging 6-7%) over the past 10 years.

The country's economic revival and success is greatly attributed also to the government's broadly liberal economic policy approach that promoted the growth of a free market economy. Through various prudent measures, inflation and interest rates were stabilized[73], the financial market liberalized, and most state-owned enterprises privatized. Indeed, the economic transformation has been quite spectacular, with the growth of the service and industrial sectors of the economy, and a decreasing dependence on the agricultural sector.

Gains in economic growth have caused significant impact in reducing poverty levels. The alleviation of poverty is a priority of government, and the cornerstone of the country's past and present strategic initiatives, espoused in plans such as the Poverty Eradication Action Plan (PEAP), Plan for Modernization of Agriculture (PMA), Prosperity for All, and the current national strategic framework- the National Development Plan (NDP) for 2010-2015. The country has managed to reduce its poverty levels from about 56 percent in 1992 to the current 24.5 percent in 2011, (surpassing the MDG target of 28 percent by 2015).

Business Environment

Business and trade from Uganda has the potential to benefit from existing regional and international trade relations. ***At a regional level***: Uganda's membership to the regional blocs of COMESA and the East African Community (EAC) provide larger markets for local products and services. The EAC with zero tax zones[74] now provides access to a market of about 150 million people, and should increase resource efficiency and productivity through increased competition, a wider basket of consumer products and services, and attractiveness for foreign

[72] Lord's Resistance Army was a group of rebels waging a rebel war in northern Uganda. It was eventually weakened but not fully defeated, though it is now a small force estimated at less than 100 troops hiding in the DRC forests. It is not expected to present any future threats to Uganda

[73] Inflation recently broke into the double digit zone, and at its peak rested at 30%. This is claimed to have been the result of recent excessive expenditure in the 2010 presidential elections (strongly denied by government.) This has unfortunately had an adverse effect on interest rates (currently ranging between 25-30%), and consequently on the rate of economic growth, (projected at 4-5% for 2012.

[74] On January 10th, 2010, East African Community (EAC) started implementing a fully fledged Customs Union where goods originating within the region attract no Import Tariff among EAC Partner States

investment. ***At an international level***: Uganda has tariff/quota free access to the European Union (EU) market. Under the EU Economic Partnership Agreement (EPA) such access will continue to be guaranteed for the export of all goods and services, while procedures will be simplified. Also Ugandan exports enjoy favourable access to the American market through the African Growth and Opportunity Act (AGOA).

The competitiveness of the business environment in Uganda has improved in recent years and as measured by the World Bank's "Doing Business Survey 2011". It currently ranks 122nd out of 183 countries, up 7 places from its previous position in 2010. The survey cites the key challenges for Ugandan business as being mainly in the areas of: (i) access to finance; (ii) contract enforcement; (iii) inadequate vocational training and skills; (iv) low productivity; and (v) a lack of quality standards. Other major constraints to investment and economic transformation in Uganda include: (i) inadequate power supply and (ii) a low developed transport infrastructure. High population growth rate, at 3.6 percent poses challenges in terms of per capita GDP growth rates and social service delivery.

The Government of Uganda (GoU) has recently put in place a number of policies and strategies to improve the business and investment climates and meet the above challenges. The overarching policy framework is provided by the National Development Plan (NDP) approved in 2010. NDP has, in line with global strategy, a strong focus on economic growth and employment creation. More specifically, various sectoral approaches are outlined in the National Trade Policy, National Export Strategy and Competitiveness and Investment Climate Strategy (CICS). The Goal of CICS is to contribute to the enhancement of productivity, competitiveness and incomes by identifying constraints to private sector growth in Uganda. In addition, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) has embarked on a new programme ' Development Strategy and Investment Plan (DSIP) 2010-2015,' which aims at public service delivery that is better focused at improving the performance of key commodities.

Key Support Agencies

Several key organisations exist to improve the investor experience. Primary among these is the Uganda Investment Authority (UIA). This body supports all investors (local and foreign) by providing information on investment opportunities, granting investment licenses and helping investors obtain work permits and other approvals. The Uganda Export Promotion Board (UEPB) offers similar services for exporters. The tax administrator, the Uganda Revenue Authority (URA), has undertaken significant reforms to improve the level of its service offering, as well as to increase efficiency in tax collections through a modernization programme. The tax base however remains narrow when compared to others in the region. For example, Ugandan tax revenues are at 13 percent of GDP compared to the 18 percent regional average.

Looking specifically at the livestock sector, from a regulatory perspective, oversight is provided by MAAIF under several acts, including the Animal Diseases Act (1964), the Hides and Skins Act (1964), the Veterinary Surgeons Act (1970), the Animal Straying Act (1964), The Animal (Prevention of Cruelty) Act (1957), the Animal Breeding Act (2000), the Cattle Grazing Act (1964), the Public Health Act (Meat and Milk Rules) (1964) and the Code of Meat inspection Uganda (1973). Other laws affecting livestock in Uganda include the Food and Drug Act (1964), the National Drug Authority Policy and Statute (1994) and the National Bureau of Standards (1993 and 1998). Where necessary these acts have been amended over time through development of policy instruments such as the Animal Diseases regulations, 2003.

Incentives for livestock sector

A number of incentives are available to investors in the country- including investments in the livestock sector. These include capital allowances, VAT refunds on building materials and the duty-free import of plant and machinery. Industrial parks are being set up to provide investors with the convenient sites, connected to good

infrastructure and reliable utilities, but these are at a very early stage of development- with only one such venture at an advanced level of development in Kampala. A specific list of the incentives available for investments in the agricultural sector are summarized below[75]

1. Inputs used for agricultural purposes are duty and tax free on importation;
2. Initial allowances of 50 percent and above on specific plant and machinery
3. Deductible annual allowances of 20 percent on specialized trucks, trailers, tractors, plant and machinery used in farming;
4. Deductible annual allowances of 20 percent on farming costs for farm works such as labour quarters, immovable buildings, fences, dips, drains, water and electricity supply works and other works necessary for the farm;
5. Income exemption for the interest earned by a financial institution on a loan to any person for the purpose of farming, animal and poultry husbandry;
6. Income exemption for persons engaged in agro processing;
7. The following items are VAT exempt;
    - Supply of veterinary services
    - Supply of veterinary equipment
    - Supply of poultry and livestock
    - Supply of machinery used for the processing of agricultural products;
8. VAT Zero rated items include;
    - Supply of fertilizers, pesticides and hoes
    - Supply of machinery, tools and implements suitable for use only in agriculture
9. Withholding tax is exempted for the following;
    - Supply or importation of animal drugs
    - Supply or importation of plant and machinery

Major challenges

The major challenges constraining Uganda's economic development and competitiveness including the following:

- Inadequate, expensive and unreliable electric power. Less than 10 percent of the population has access to the grid. The Bujagali hydro-electric power scheme, a priority infrastructure initiative of the GoU, has come on-stream in early 2012. This is expected to significantly alleviate the power shortage over the next 2 years. The government has also allocated funds[76] for the 600MW Karuma Dam whose construction is expected to begin soon.
- The country's landlocked status and poorly-maintained and costly networks of rail, road and shipping infrastructure. Slow and expensive border and administrative procedures which exacerbate this problem and increase the costs associated with trade and transport.
- Shortage of vocational and technical skills in the labour market – skill and efficiency levels lag behind those of Uganda's regional partners- especially Kenya.
- High cost and limited access to business finance. This challenge has been frustrated further by the recent inflationary spike that resulted in the prevailing high borrowing interest rates (25-30%). This has discouraged borrowing, and slowed business activity.
- Inadequate legal and regulatory framework and its enforcement for both investment and trade.
- Limited market size- although this could be mitigated by deepening of the EAC integration, quality and competitiveness will remain key barriers to greater regional and international exports.

[75] Uganda Investment Authority, Livestock Sector Brief, 2010

[76] Recent newspaper story has quoted that over 1 trillion shillings has been allocated for this project

- Uganda ranks 122nd out of 183 countries in the World Bank Doing Business Survey 2011, up 7 places from its previous rank (http://www.doingbusiness.org). This places Uganda ahead of Tanzania but well behind Kenya. Uganda fares poorly in categories of obtaining construction permits, registering a business, trading across borders and enforcing contracts
- Corruption remains a real issue and matter of concern. Although the government has introduced a number of measures to address this, it remains embedded into the fabric of Ugandan business culture.

4) Inventory of on-going support activities and lessons learnt.

There are several past and on-going projects from the livestock sector from which lessons have been learned. The key projects over the last ten years, as well as their impact and lessons are detailed in this section.

Dairy Industry Development Project

From 1986 to 1993 a multi-donor program, the UGA/84/023 Dairy Industry Development Project, led by the then parastatal Dairy Corporation and FAO, executed and completed the first phase of the national dairy rehabilitation and development plan. The project was supported by AfDB, Danida, UNDP and WFP. The aim of the project was to stimulate local milk production. During this period, skimmed milk powder and butter oil was provided to the Dairy Corporation for recombination purposes. Revenue from the sale of these commodities was paid to the Dairy Development Committee for use in the development and rehabilitation of the dairy sector. By 1990, milk collection was restored to the 1970s peak level. Danida's US$ 5.2 million assistance was utilized for the rehabilitation of the Dairy Corporation's main processing plant in Kampala and for the upgrading of milk collection facilities in the south-western region (Mbarara milk shed). Danida also provided funds for equipment and machinery used to rehabilitate the Entebbe Dairy Training School and plant. The projects demonstrated that importation of milk powder and reconstitution of milk can be used to stimulate dairy development This project was successful in maintaining milk supply and demand in the periods of scarcity of local production, which helped maintain and even stimulate demand even when local supply stabilized.

Land O'Lakes

Land O'Lakes (LOL) facilitated a private sector-based dairy development project where it provides technical assistance at all levels of the dairy value chain. The integration of dairy farmers into marketing using cooperative systems, proved to be a successful way of developing the sector and increase the income of the farmers. In one project, farmers were empowered to run the Milk Collection Centre (MCC) enterprises on a commercial basis. The intervention was very instrumental in the establishment of milk bulking centres in the south western milk shed run by the district unions. Farmers in the south-western milk shed are now able to commercially run the MCCs and negotiate as a group for better prices for their product.

Currently, LOL is running two projects involving primary cooperatives in the south-west milk shed. Technical assistance has been provided to twelve primary cooperatives under the Bushenyi (BUDICU) and Mbarara (MBADFCU) district unions in improved pasture and fodder production under the USDA funded project which is jointly run with FINCA, a microfinance institution. In addition farmers and their societies are introduced to financial institutions for acquiring loans. The project has also supported the establishment of primary cooperatives in Gulu. It will expire in July 2012.In another five-year project financed by USAID, LOL is providing assistance to UCCCU[77] to strengthen governance at the district union level.

Heifer International & the Bill and Melinda Gates EADD Project

Heifer International (HI) has worked in Uganda since 1982 to assist resource poor households to keep livestock through the provision of high yielding dairy stock. The programme uses the "pass on gift" principle where households which receive heifers pass on the first produced heifer to another family for free. "Send a Cow Uganda" (SACU), another NGO, uses similar principles. As it was realized that it was not enough to stimulate production without linking it to market access, both programmes have since made efforts to link groups to local markets by encouraging group marketing.

[77] Uganda Crane Creameries Cooperative Union, is a national dairy union

Heifer International is also implementing the East Africa Dairy Development Project (EADD) -financed by the Bill & Melinda Gates Foundation) in partnership with: Technoserve Inc., the International Livestock Research Institute (ILRI), the World Agro-Forestry Centre and the African Breeders Service. By applying integrated interventions in dairy production, market access and knowledge application during phase one, EADD has supported the revitalization and setting up of 39 dairy farmers' cooperatives or business associations (EADD 2011)[78].

- The project learnt that farmers were reluctant to form companies and preferred to work through cooperatives.
- Realizing that volumes of milk produced in the central region as part of the cattle corridor were low, that the area had low population density and was not well served with feeder roads, the size of milk cooling tanks installed was reduced from 10,000 litres to 5,000 litres.
- The number of milk collection sites was doubled from 15 to 31 to widen the net of farmer involvement. It was demonstrated that as the market expands, it will be necessary to establish milk cooling plants with tank capacities of 1,000 to 2,000 litres to further tap into the deeper remote areas (EADD Midterm Report 2008-2010)[79].
- Noting that traders handled 80 percent of all marketed unprocessed milk and that the majority of farmers in the central region were connected to these traditional hubs, EADD worked with 14 traditional milk collection hubs run by farmers, that collected milk for sale to this market.
- Farmers' position was leveraged through collective bargaining and by stimulating demand for quality milk. Technical advice given by the project's business managers helped raise farm-gate prices by creating competition in the formal and informal markets. By expanding farmer profit margins, EADD has been able to demonstrate that investing in dairy improvements was worthwhile.

At present the project is planning phase two which is to start in 2012. It is envisaged that the second phase of the project will have a component of capacity building and support at production level for the central, south western and eastern regions of the country.

Dairy Value Addition in agro-pastoral communities

The potential of dairy value addition in agro-pastoral communities of Uganda was shown by a recent study conducted under the *Exploiting Market Opportunities for Value-added Dairy Products in the EAC* region project (AFID 2011)[80]. The project was jointly implemented by Bulindi Zonal Agriculture Research Institute (BUZARD), the Agency for Inter-Regional Development (AFID) and ASERECA. It was noted that interventions for unlocking this potential should be targeted to all stakeholders along the value chain starting with producers. It was noted that emerging market trends like consumer demand for ethnic products such as sour butter, ghee and bongo provide great market opportunities. Efficient labour saving technologies, proper packaging which does not greatly increase the cost of products, and collective marketing provide strong entry points for increased value addition.

Mapping supply and demand milk study

"The Mapping a Better Future" study illustrated how poverty maps could be combined with livestock-related maps to create new indicators and information that can guide future investments. It showed that 3.5 million poor people lived in areas where the amount of milk produced was estimated to be more than needed by the local population

[78] East Africa Dairy Development Project: Project Profile
[79] East Africa Dairy Development: Milking for Profit Midterm Report 2008 - 2010
[80] AFID BRIEF002/ASAR.LFP 01/2009 Case Study: Potential of Dairy Value Addition in Agro-pastoral Communities of Uganda: A Case of Nakasongola, Hoima and Kasese Districts. June 2011

(so called milk surplus regions). This includes the southwestern region milk shed. Development strategies in milk surplus regions could aim at improving market infrastructure and reducing market transaction costs. In addition, the study revealed that approximately 0.8 million poor people live in milk deficit areas in the eastern and northern regions , where initiatives aimed at increasing milk production need to be considered (MAAIF, UBOS, FAO, ILRI & WRI 2010)[81].

The National Livestock Productivity Improvement Project

The National Livestock Productivity Improvement Project (NLPIP) under the MAAIF and funded by the Africa Development Bank, had a Livestock Marketing Information sub-project running from 2005 to 2009. This component was operated by the FOODNET Market Information Service, which collected and analyzed data and disseminates marketing information on livestock from 29 districts in the cattle corridor. The main aim was to inform farmers with the latest prices in the market. and to negotiate for better prices. Farmers in the south-western milk shed stated that they were able to know current prices of milk in the different parts of the country by way of the information bulletins that featured on Radio West. The project demonstrated that access to market information greatly benefits farmers..

The Agricultural Technology and Agribusiness Advisory Services Project

The Agricultural Technology and Agribusiness Advisory Services Project (ATAAS) is financed by the World Bank and started in 2012 and is ongoing. The project's objective is to increase agricultural productivity and the income of participating households by improving the performance of agricultural research and advisory service systems. The project includes five components. Component one: developing Agricultural Technologies and Strengthening the National Agricultural Research System. The objectives of component one is to develop agricultural technologies through research, and to strengthen agricultural research institutions. Component two: enhancing partnerships between agricultural research, advisory services, and other stakeholders. The objectives of component two are to enhance the efficiency and effectiveness of technology development and dissemination by supporting closer linkages between National Agricultural Research Organization (NARO), the National Agricultural Advisory Services (NAADS), and other stakeholders. Component three: strengthening the national agricultural advisory services. The objectives of component three are to support improved delivery of demand-driven and market-oriented advisory services to farmers to promote their progression from subsistence to market-orientation. Component four: supporting agribusiness services and market linkages. The objective of component four is to promote integration of smallholders in value chains by supporting collaboration between agribusiness, farmers, advisers, and researchers to create viable, sustainable market and agribusiness linkages. Component five: program management. The objective of component five is to support the NARO and NAADS Secretariats to ensure: (i) efficient execution of administrative, financial management, and procurement functions; (ii) coordination of project activities among various stakeholders; (iii) implementation of safeguard measures mandated by the Government of Uganda and International Development Association (IDA); and (iv) an effective use of the joint monitoring and evaluation (M&E) and Information and Communications Technology (ICT) systems established under component two.

The Eastern Africa Agricultural Productivity Project (EAAPP)

[81] Ministry of Agriculture Animal Industry and Fisheries, Uganda Bureau of Statistics, Food and Agriculture Organization of the United Nations, International Livestock Research Institute and World Resources Institute 2010. Mapping a Better Future: Spatial Analysis and Pro-Poor Livestock Strategies in Uganda. Washington ,DC and Kampala: World Resource Institute

The Eastern Africa Agricultural Productivity Project (EAAPP) has its origins from the Vision of the African heads of states which through the New Partnership for Africa Development (NEPAD), **s**et the Millennium Development Goals of halving hunger and poverty in Africa by 2015 through sustained economic growth of about 6 percent annually for 12 years. It also called for greater focus on improving agricultural productivity and increasing the effectiveness of technology generation and dissemination. This required identification of the Sub-sectors that had the greatest potential to drive growth and reduce poverty. That potential was noted to lie in commodities that have large production base and large growing demand in the region.

EAAPP is being implemented in Ethiopia, Kenya, Uganda and Tanzania with the assistance of the World Bank over the period 2010 – 2014. It is designed to invest in regional approaches to agricultural research through the strengthening and scaling up of agricultural research in Eastern Africa, with a focuson dairy, wheat, cassava and rice. Due to its comparative advantage in the dairy industry in the region in terms of superior genetics, feeding technologies, animal health technologies and organization of farmer producer units along the lines of the successful co-operative movements, Kenya was identified as the appropriate host country for the Dairy Centre of Excellence**.** Kenya will assist other countries in the region in the development of a robust dairy sector based on the smallholder model.

The dairy sector falls under Component 3 of the EAAP: Improving the Availability of Seeds and Planting Materials. The objective of this component is to improve the regional availability of seeds, planting materials and breeds through technology multiplication, creating an enabling environment for regional trade in seeds, breeds and semen for the formal and informal sector. This will be achieved through supporting capacity development in seeds production and trade, and the harmonization of policies and regulatory framework among the partner states. The component will also support the development of a livestock gene bank. In Uganda, NAGRIC will lead the livestock breeding component.

Nortura Beef Export Program

A study on developing an export oriented meat industry in Uganda was sponsored by Norway and was completed in 2007. The study implemented by NORTURA (a Norwegian meat cooperative) resulted in the implementation of the Uganda Meat Export Development Project (UMED IP – Interim Programme) during the period 2009-2012. The objective of the project was to prepare the country in the export of beef to the lucrative markets of Europe by the establishment of Disease Free Control Zones, putting in place an enabling legal framework, the improvement of livestock production systems, putting in place the relevant infrastructure to enable the attainment of the required EU standards, the formation of the Uganda Meat Producers Cooperative Association (UMPCU) and the Uganda Meat Export Company (UMEC). All interventions are in partnership with GOU.

The project failed however to achieve its objective largely because:

- The implementation of disease free zones through an elaborate fencing program proved untenable,
- The national production volumes remained insufficient to sustain large export volumes and the interest of foreign importers

The priority of the project has now shifted towards more realistic and achievable regional markets and the Near and Middle East.

The DANIDA B2B Experience

Danida through the Danish Embassy have implemented several Business to Business (B2B projects for a number of years between Ugandan investors and Danish partners, across a range of agribusiness sectors. The key lessons learnt from their experience show that B2B partnerships were successful where:

- There was a clear and apparent business opportunity that justified investments.
- A well-defined and understood business plan that was carefully adhered to existed.
- There was openness and mutual trust among the partners, supported by transparent corporate governance processes.
- Equity in the firm was shared by the partners.

And Partnerships have struggled or were unsuccessful where

- There was inadequate preparation and/or no market research before implementation.
- There one or both partners entered into the partnership primarily to get finance, equity or capital goods, as opposed to access to training, technology transfer, markets, improved working conditions and management techniques.
- The local partner did not contribute significant resources and expected the foreign partner to shoulder the bulk of the project.
- Transparency or mutual trust was lacking between the partners.
- One partner only had short-term expectations of the result of the collaboration
- One partner excessively dominated the other, or where expectations and activities had not been thoroughly discussed and agreed upon beforehand

5) Access to Finance

This chapter focuses on the access to finance in Uganda and elaborates on livestock financing instruments available in the market with the emphasis on investment financing opportunities.

The chapter starts with a general overview of the access to finance in Uganda which is largely based on the FinScope Report of 2010. Subsequently, an overview of the supply side is provided focusing on the main debt and equity providers in the sector and their instruments. In the next chapter the demand side is discussed, followed by an overview of investment opportunities for increasing the potential of livestock. The chapter ends with conclusions and recommendations.

5.1 Description of access to finance in Uganda

The FinScope report on Uganda of 2010 concludes that 70 percent percent of the population aged 16 years and above are financially served with 21 percent of this population using banking services, while a majority (42%) use informal financial services. The rest (30%) of the population are financially excluded. Compared to 2006, there has been an increase in the proportion of those using financial services from 57 percent to 72 percent in 2009 for the 18+ years population.

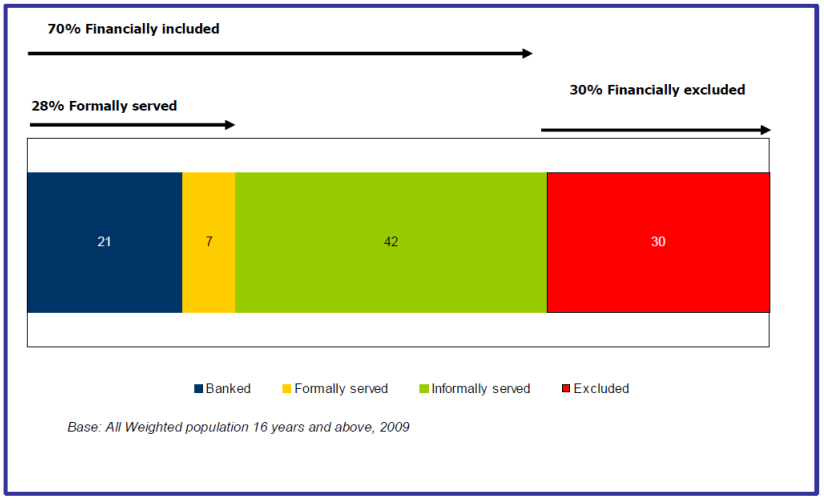


Figure 16: Level of access to financial services in Uganda

Source: Finscope Uganda Report 2010

Although there is a general increase in the level of financial inclusion (i.e. access to financial services), large variations exist between the informally served and the financially excluded.

Usage of informal financial products increased by 14 percent whereas the financially excluded reduced by 15 percent.

5.1.1 Analysis by source of income

The main source of income for most people is the selling of produce from one's own farm (see figure). Within this category of the population, over half are informally financially served, while less than a fifth use formal products. It is also noted that financial exclusion is most prevalent among those who mostly depend on help from household members and casual labourers working on other people's farms. The population that mainly depends on earnings from formal employment or running one's own business is most likely to use banking products because bank accounts are usually required by the employer/businesses to to make regular

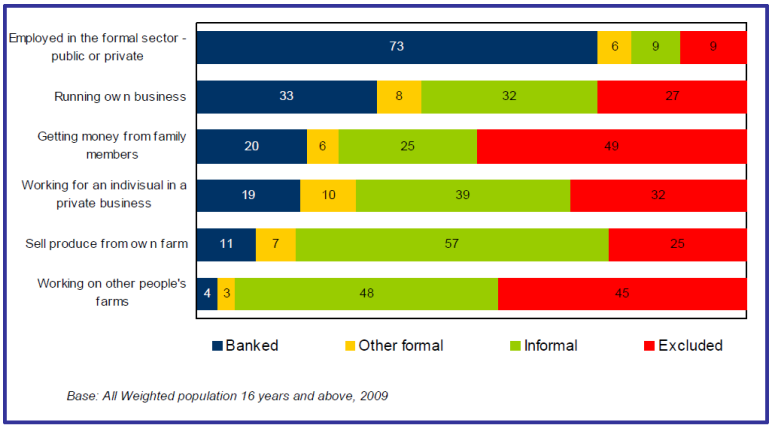


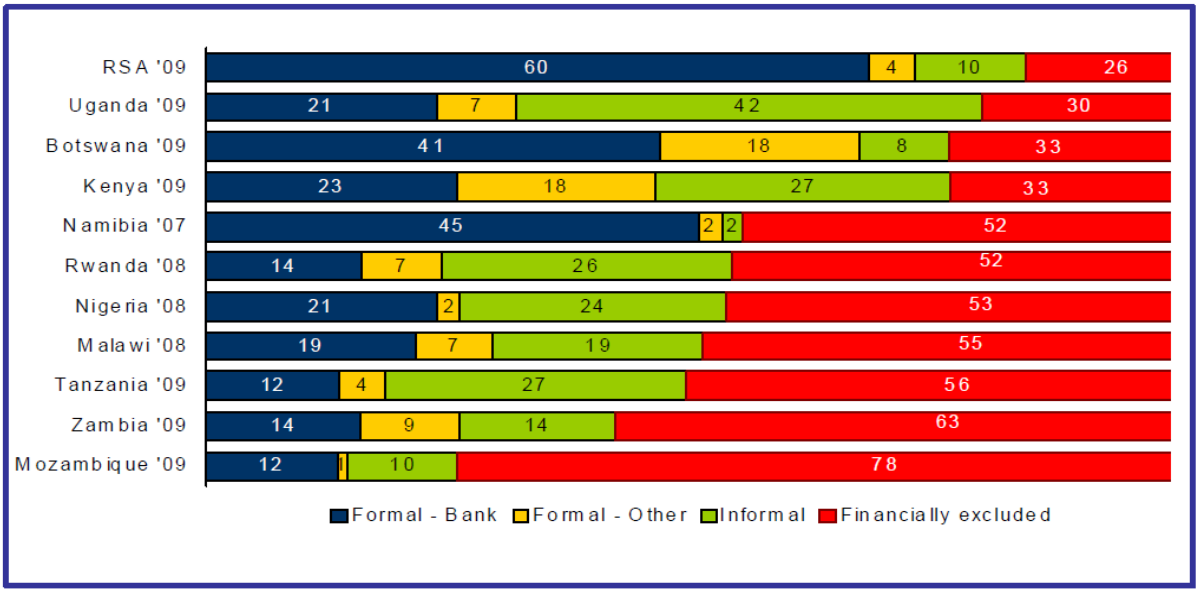
Figure 17: Level of financial inclusion vs. source of income

Source: Finscope Uganda Report 2010

salary deposits/ money generated from the business on a regular basis.

5.1.2 Relative position of Uganda

Figure 18: Relative position of Uganda in terms of access to financial services



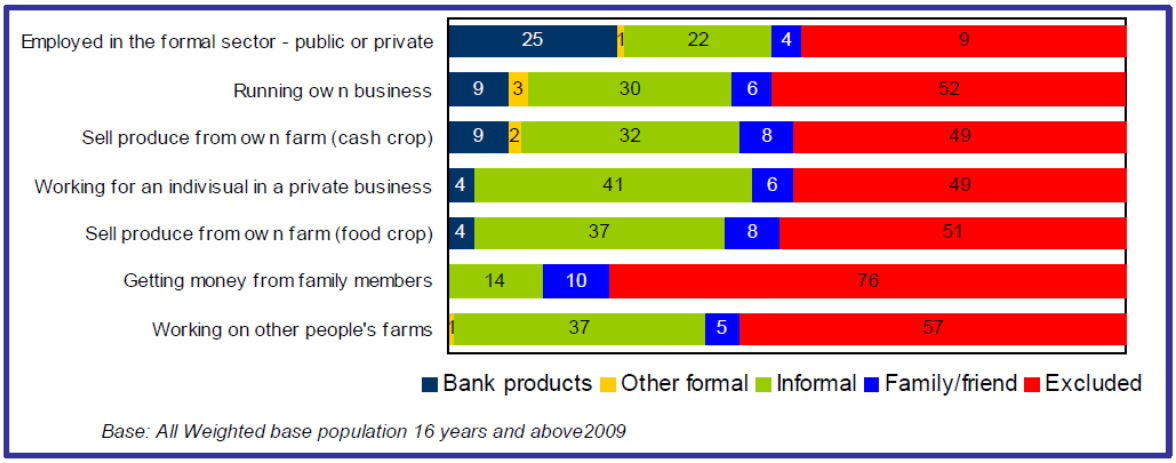
Source: Finscope Uganda Report 2010

The above figure compares the financial access situation in Uganda with other African countries. With 21 percent of adult population using the banking sector, Uganda fares well in comparison to other African nations. Uganda ranks high in the table given that only a small percentage is 'financially excluded'. The rate of inclusion in Uganda is relatively high because of the role of the informal sector, which minimizes restrictions to financial access.

5.1.3 Borrowing

The country's population whose main source of income is from agricultural activities is most likely to use informal sources for credit as shown in the figure below. Similar to savings, the formally employed population mostly borrows from banking institutions (25%). Those depending on other members of the household or relatives will most likely not borrow or acquire a loan.

Figure 19: Relationship between employment type and type of financial services available



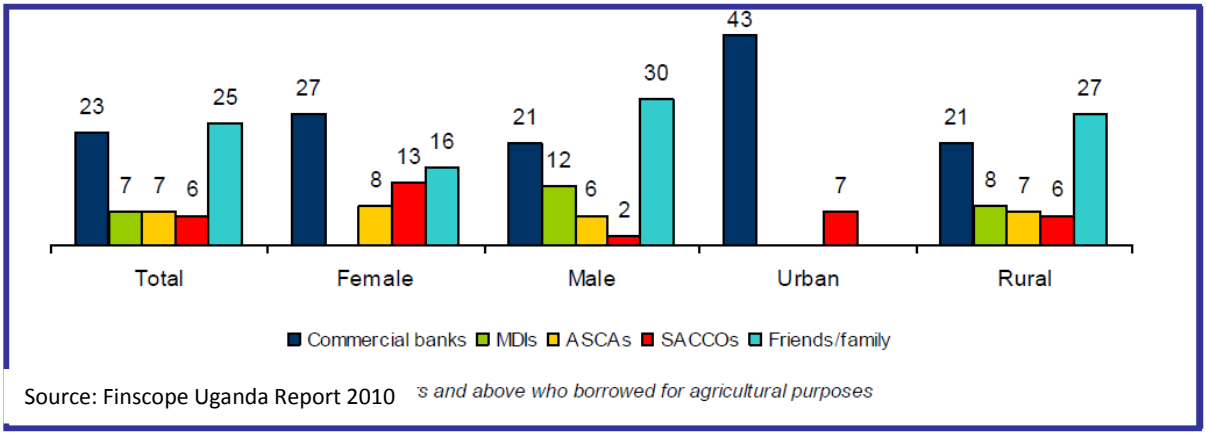
Source: Finscope Uganda Report 2010

5.1.4 Credit in Agriculture

Agriculture is one of the main economic activities for the majority of Ugandans though it is mostly practiced at subsistence level. Many farmers would like to employ better production techniques that can lead to increased output but are being faced with challenges of access to finance among others. One of the ways through which capital could be raised is in obtaining a loan. However, of the people currently having credit, only a tenth obtained it for use in agricultural production.

The most common sources of agricultural credit are friends and family (27%) and commercial banks (23%) as indicated in the below figure. It is important to note that the incidence of acquiring loans from formal institutions is still relatively low.

Figure 20: Sources of Credit



Source: Finscope Uganda Report 2010 *s and above who borrowed for agricultural purposes*

5.2 Supply side: the key players and their instruments

5.2.1 Overview of the players

Agricultural lending by regulated commercial banks, credit institutions and MFIs increased in 2010 substantially by 22 percent, although the share of agricultural lending in total lending decreased from 9 percent to 7 percent (source: Agri Finance Yearbook 2010). The main factors contributing to the increase were (i) the increase in operations of six newly licensed FI's; (ii) favourable climatic conditions in 2009/2010; and (iii) the Government's increase in investment to the agricultural sector in 2010 via its 50 percent share in the UGS 60 billion Agricultural Finance Facility (AFC).

Commercial banks dominate lending to agricultural sector with 94 percent followed by Microfinance and credit institutions (6%) like SACCOs and MFIs. The use of donor funding, equity funds and guarantee funds are not taken into account in this overview.

It is interesting to note that while agriculture, fishing and forestry contribute some 31 percent to GDP, lending to the biggest of these, agriculture, is just 7 percent of total formal lending. This tends to support the often-mentioned observation that these primary sectors offer much scope for investment.

If we regard the official financial sector to be divided into three main providers, this would be: commercial banks, credit institutions and MFI's. A description of the main institutions per type of provider in Uganda is as follows:

Commercial Banks: (94% lending to agriculture)

- Centenary Rural Development Bank
- DFCU
- Stanbic

Microfinance and credit institutions: (6%)

- SACCO's
- Uganda Central Co-operative Financial Services LTD (UCCFS)

Other providers of funding are:

Donors:

- Abi-trust
- Africa Enterprise Challenge Fund (AECF)

Equity Funds:

- Africa Agriculture and Trade Investment Fund (AATIF)
- Agri-Vie Agribusiness Fund
- Annona Sustainable Investment Fund
- Voxtra East Africa Agribusiness Fund

Guarantee Funds:

- Agricultural Credit Facility
- Agricultural Loan Guarantee Company (ALGC) - Abi Trust

5.2.2 Commercial banks

Centenary Rural Development Bank

Centenary Rural Development Bank is a commercial bank, which operates country-wide in Uganda. In contrast to other commercial banks in Uganda, its mission is to provide appropriate financial services - especially micro finance - to all people of Uganda particularly in rural areas in a sustainable manner. That is why this bank is strongly presented in the agri financing sector.

20 percent of the portfolio of Centenary Rural Development Bank is related to agri-financing. This part can be divided into the following categories;

- Crop production: circa 50 percent
- Dairy: 20 percent
- Poultry: 10-20 percent
- Cattle trading: circa 10-20 percent

Key products for livestock sector

Cattle trading is concentrated in the Masaka branch (West/Central Uganda) where cattle trading is a key business activity. The bank finances the purchase of the cattle, working capital during the fattening period and is repaid within six months after the cattle is sold.

The loan period for working capital is set at two years and the loan period for investments has a maximum of five years. The collateral requirements are 150 percent of the loan amount. The minimum loan amount is UGS 100,000 up to UGS 3 billion (about EUR 1 million).

In livestock financing, the bank takes a pledge on the cattle, personal guarantees and extra guarantees provided by Danida and USAID to back the loan amount. Because most of the land is communal land it is not possible to use land as collateral.

In dairy, the bank mostly finances individual farmers and only a few cooperatives. Cooperatives are difficult to finance due to lack of collateral and poor organization and management. The bank is familiar with value chain finance structures and tri-partite arrangements (examples are Sameer and Jesa Dairy).

The key criteria in farmer financing are: sector risk, market linkages, track-record.

Recently they started a new product: lease for equipment. With rising commodity prices, Centenary Bank sees a lot of potential in investing in agricultural production, collective marketing and value addition. The bank particularly sees potential in dairy, feed milling and hatcheries (producing day-old-chicks).

DFCU

Another bank active in agri financing is DFCU. DFCU is listed as a commercial bank with 29 branches in the country. Its agri loan portfolio amounts to some US$ 10 million or 5 percent of its total portfolio. Beef, dairy and poultry together absorbs over US$ 2 million. Its main products in the agri sector are leasing (e.g. machinery, milk equipment and processing) and long-term loans for investments.

Stanbic

Stanbic is part of Standard Bank South Africa. Stanbic would typically finance larger farmers directly and would not focus on smallholders and emerging farmers simply because they lack the required rural network.
However, in 2009, the bank started to focus on SME agri farmers through a wholesale approach. AGRA and Standard Bank announced a US$ 100 mln loan scheme for Agricultural Value Chains in Ghana, Mozambique, Tanzania and Uganda: “The Agricultural Guarantee Fund Scheme”(AGFS).

According to Richard Wangwe of Stanbic Uganda, without this guarantee Stanbic Uganda would not have started financing smallholder cooperatives. Until 2011 they have invested US$ 7.2 million in Uganda covering 57 cooperatives dealing with 23,000 smallholders (compared to a total portfolio in agribusiness of some US$ 25 mln).

In addition to a wholesale approach, Stanbic follows a value chain approach meaning that it will only finance farmer groups that have forward linkages to processors or traders. Maximum loan period for coops is six years and individual farmers eight years. Interest rate depends on the risk profile ranging between 3-5 percent per month. Maximum loan amount for coops is UGS 25 mln and for individual farmers and agribusinesses up to UGS 2.1 bio.

5.2.3 Microfinance and credit institutions

There are over 100 microfinance organizations and SACCOs in Uganda. Of the microfinance organizations UCCFS is the largest. Another main microfinance organization is MAMIDECOT.

SACCO

SACCOs is an acronym for Savings and Credit Cooperative Organizations. It is owned, governed and managed by its members who have the same common bond: they may be working for the same employer, belonging to the same church, labour union, social fraternity or living/working in the same community.

Whereas in countries like Kenya the life of a SACCO spans over decades, most SACCOs in Uganda fail after only a few years. In the remote rural areas, SACCOs are often the only providers of financial services for most people. When the SACCOs fail, this leaves people with little or no alternative services.

SACCOs typically suffer from bad governance, incompetent management, political interference, abuse by the more powerful members, financial illiteracy of most members and corruption. According to the Financial Yearbook 2010, the most frequent causes of collapse included the following: failure to cope with competition especially from commercial banks, MDIs and other MFIs which offer similar services. SACCOs have lost their members to these institutions which offer better services and look more stable.

The agri-loans of SACCOs are for commercial agriculture, meaning that the agri-products will be sold on the open market. The maximum loan period of most SACCOs is about 16 months but 3-6 months is more usual. The maximum loan amount differs per SACCO but the maximum collateral requirement is UGS 4 million.

While the demand from the SACCO members is for both seasonal and medium/longer term loans, the SACCO is only able to meet part of the demand for seasonal advances, i.e. short-term finance. This leaves a serious gap in the range of financial products available to members.

In summary, SACCOs are often the only institutions in remote rural areas that can provide financial services to agriculture. Therefore, they are key to the development of small and medium sized farmers. However, in Uganda many failed due to the above cited reasons. Besides their proximity to small farmers their advantage is generally lower interest rates. The disadvantages are the limited loan amounts available, the generally short loan periods and the weak management of most SACCOs.

Uganda Central Co-operative Financial Services LTD (UCCFS)

Uganda Central Co-operative Financial Services LTD was established in 2009. Before that time the services provided under UCCFS were provided by the micro-finance department of UCA (the Uganda Cooperative Alliance). After its split from UCA, UCCFS specialized on service provision for micro-finance through six regional offices. The members of UCCFS are SACCOs, production co-operatives and energy co-operatives. Out of the 210 members, 200 are SACCO's and 10 are agricultural cooperatives. UCCFS is providing the following services to its members: capacity building, monitoring and evaluation of business performance, audit services and credit and savings services for its members. Its advantage compared to SACCOs is that it can offer larger loan amounts to farmers. However, due to its limited funding (member savings complemented with a loan from Rabobank Foundation) its maximum loan amount of UGS 100 million is still relatively small.

UCCFS is currently piloting a project for the provision of micro-finance together with SANTAM, an insurance company from South Africa. UCCFS aims to become the financial institution or bank for SACCOs in Uganda.

MAMIDECOT

MAMIDECOT was established in 1999 by 34 founding members, with the help of the United Nations Development Programme (UNDP) funded Private Sector Development Programme. The objective of this programme was to motivate the creation of community based savings and credit cooperatives (SACCOs) in the rural areas. MAMIDECOT is also a SACCO by its constitution, and thus owned by its members, whose delegates gather once a year at the Annual General Meeting.

Today MAMIDECOT has approximately 12,000 members in four branches: Nyendo (the headquarters), Lukaya, Kalungu, and Bukomansimbi.

MAMIDECOT offers a variety of microcredit and savings services, as well as training for its members. Its product offering includes: ordinary savings and time deposit accounts, school savings accounts, and loans for business investments, agricultural improvements, buying boda bodas or paying for school fees. Loan interest rate is 2.5 percent per month, except for agricultural loans (2 percent per month). MAMIDECOT has continuously improved its offering to suit better the needs of its clientele. For example, it has adjusted the terms of its agricultural loan product to be a better fit with the farmers' cash flows.

All individual loans need to be guaranteed by two other members of MAMIDECOT. If the loan applied for is smaller than 1,000,000 UGS, one guarantor may be sufficient.

5.2.4 Donors

Donors from different EU member states and the US are present in Uganda. They facilitate farmer cooperatives and livestock projects all over the country. The amounts they give to the cooperative depends on the investments of equipment and needed working capital. In most cases no collateral is required. The conditions of getting loans are very attractive to the farmers. Examples of donors providing financial support are Danida, SIDA, Dutch government, Rabobank Foundation, USAID, AGRA, etc. An example of donor funding is through Africa Enterprise Challenge Fund and Abi-trust.

- Abi-trust
- Africa Enterprise Challenge Fund (AECF)

The agribusiness Initiative (aBi) Trust

The Agribusiness Initiative (aBi) Trust is an institution set up by the governments of Uganda and Denmark, other partners are Sweden, Belgium and the EU, to support agribusiness initiatives in the country. In particular it is to support the private sector to increase their contribution to the agricultural sector by increasing productivity and competitiveness leading to poverty reduction through economic growth, wealth, and employment creation. The vision of aBi Trust is of "competitive private sector led agriculture in Uganda" with the mission to "promote private sector driven agribusiness development to enhance wealth creation in the country". aBi Trust provides both financing and technical support in selected agricultural value chains (coffee, maize, oilseeds, pulses, fruits and vegetables for export) and offers an integrated approach on value chain development.

The aBi Trust achieves its mission and vision through interrelated sub-components. The subcomponents are: 1 .Value Chain Development leading to improved performance of value chain actors, including trade-related Sanitary and Phytosanitary (SPS) and Quality Management Systems (QMS) leading to increased trade opportunities. 2 Financial Services Development (FSD) leading to expansion of financial services by supporting agribusiness in order to increased availability and use of financial services. 3 Cross-cutting Gender for Growth that fully integrates gender equality in each of the sub components and manages a fund piloting innovative gender equality approach in agriculture.

Africa Enterprise Challenge Fund (AECF)

AECF is a fund of donor money available to the private sector on a competitive basis focused on agribusiness projects in East Africa. AECF is a special partnership initiative of the Alliance for a Green Revolution in Africa (AGRA). AECF is funded by a multi-donor consortium (DFID, Dutch government, Ausaid, DANIDA, SIDA, IFAD). Final decisions are made by an Independent Investment Committee. Current capital is US$140mln.

The AECF provides grants and repayable grants from a minimum of US$250,000 up to a maximum of US$1.5mln. per project (the average grant/loan size is around US$750,000). Companies have to at least match the funds provided by the AECF. AECF funds are provided on a reimbursement basis unless otherwise agreed.

5.2.5 Equity Funds

The problem of access to finance is particularly acute for small and medium enterprises in need of long-term finance for business development.

A significant gap exists in the supply of long-term finance between microfinance institutions, at the lower end of the spectrum, that concentrate on loans of less than $1,000 (about USH2.6m) and the relatively large-scale commercial banks at the other end that are reluctant to lend long term to SMEs in the agriculture sector. In both cases, the high interest rates are often prohibitive for long-term investments.

Equity funds, by providing long-term equity finance, contribute to addressing this funding gap. However, the vast majority of the existing funds are focused on large deals and target companies (e.g. food processors) at the bank-friendly end of the spectrum. Investment demand in Uganda and East Africa currently exceeds supply.

There are several equity funds on the market focusing on agribusiness in Africa. The issue is not a lack of capital but a lack of good projects. Most multilateral institutions such as the African Development Bank, IFC, FMO and KFW have invested in dedicated equity funds focusing on the food and agribusiness sectors. For example, the IFC-supported Agri-Vie Agribusiness Fund, is a private equity fund with the purpose of making equity investments in agribusiness companies in Southern and Eastern Africa. The Fund is managed by AA Fund Managers, incorporated in Mauritius, which draws on advice from Agri-Vie Investment Services incorporated in South Africa.

In 2011, KFW launched the Africa Agriculture and Trade Investment Fund (AATIF). The Fund's mission is to realize the potential of Africa's agricultural production, manufacturing, service provision and trade for the benefit of the poor. The Fund targets small, medium and large scale agricultural farms as well as agricultural businesses along the entire agricultural value chain which will be financed directly (e.g. cooperatives, commercial farms, processing companies) and indirectly via local financial institutions or other intermediaries (such as large agribusinesses) which on-lend to the agricultural sector. All investment instruments are available: Senior debt, Mezzanine and Equity. Target clients may receive financing of around EUR 1-15 million per project.

In addition to these multilateral related initiatives, there are several private funds looking for food and agricultural opportunities such as the Annona Fund. The Annona Sustainable Investment Fund is a commercial Venture Capital fund that invests in small- and medium sized enterprises (SME's) in Africa and Latin America related to the Food and Agribusiness sectors. Founded in January 2009, Annona counts the Royal Tropical Institute (KIT) and a number of institutional parties amongst its investors. Annona fund takes participations in agribusiness companies and works with banks to arrange working capital and works in close coordination with banks in the area. Where necessary it teams up with (inter-)national clients and assists with negotiating off-take agreements. Also it provides input on capacity building programmes aimed at improving reliability of supply and/or quality.

EVPA (European Venture Philanthropy Association), member of Voxtra, recently held the first closing of their impact investing fund for agribusiness in East Africa. They raised some US$ 12 million from institutional investors such as Norfund, Grieg International and Kavlifondet, as well as from engaged individuals in Scandinavia. The Fund will invest in 10-15 small and growing enterprises in East Africa that provide improved inputs, processing capacity or market access to smallholder farmers. The Fund will target companies in the 'missing middle'; too large for microfinance and too small for mainstream investors.

The Rockefeller Foundation, the Gatsby Charitable Foundation and Volksvermogen NV have established African Agricultural Capital (AAC), a venture capital investment fund specifically created to invest in small and medium-sized agriculture-related businesses in East Africa. AAC is managed by PCP Uganda, a wholly-owned subsidiary of Pearl Capital Partners, a Mauritius based investment management business.

But, as aforementioned, the issue with many of these Funds is that they generally focus on the high end of the market and SMEs are often caught in the middle. Most of these funds are a member of the African Venture Capital Association (http://www.avcanet.com/).

5.2.6 Guarantee Funds

Agricultural Credit Facility (AFC) for medium Term Loans

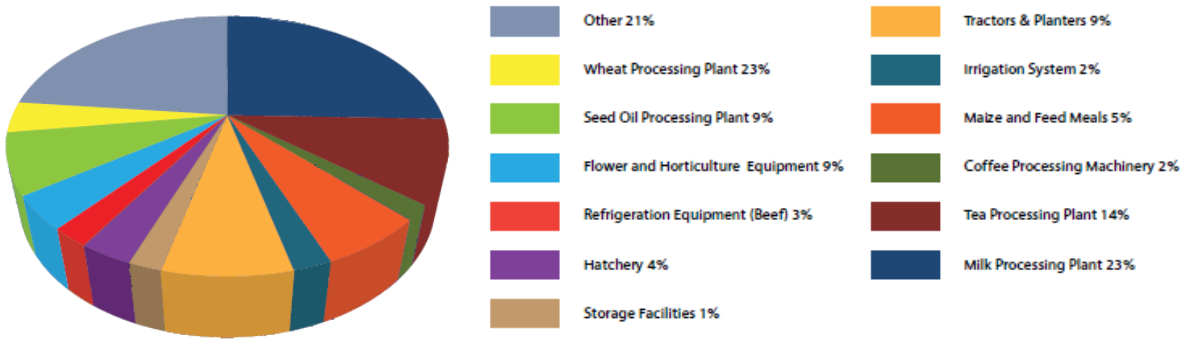
The Agricultural Credit Facility (ACF) was set up by Government to facilitate the provision of medium term loans to agriculture and agro-processing on more favourable terms than are usually available from commercial banks. Loans under the ACF are disbursed to farmers and agro-processors by Participating Financial Institutions (PFIs). The list of eligible PFIs includes commercial banks and other financial institutions supervised by the Bank of Uganda (BoU), plus the Uganda Development Bank. The scheme is administered by the BoU. The main purpose of the ACF scheme is to provide medium and long term financing to projects engaged in agriculture and agro-processing to support agricultural expansion, modernization& mechanization and value addition. Eligible projects include investments in farm machinery, post-harvest handling and processing.

In the 2009/10 budget, Government made a provision of UGS 30 billion to the ACF, which was matched by an equal amount from the PFIs. The terms under the ACF are more favourable than those PFIs normally give to their borrowers, in terms of interest rate charged, processing fees and loan terms. The GoU contribution to ACF is given to the PFIs at zero interest. In addition, the Government provides a 50 percent guarantee to the PFIs for the principal of the loans extended to farmers and agro-processors. The interest rate paid by the borrowers was set at 10 percent per annum, with an additional0.5 percent as a one-off commitment fee. Loans have maturities of between two and eight years, with a grace period of up to three years. Almost all the initial UGS 60 billion of funds in the ACF has now been either disbursed or committed to eligible borrowers.

The ACF has been modified in the 2010/11 financial year to allow for an expansion of lending to farmers and agro-processors. Government has made a further UGS 30billion contribution to the ACF but the contribution of the PFIs is rising to UGS 60billion, thereby allowing total funds of UGS 90 billion to be lent to eligible borrowers under ACF conditions.

The following chart shows the sectors that benefitted from ACF matching funding. With 23 percent of total funds, milk processing plants have been the main user of AFC funds.

Figure 21: Sectors that have benefited from GoU's Agriculture Credit Facility



Source: Financial Yearbook Uganda 2010

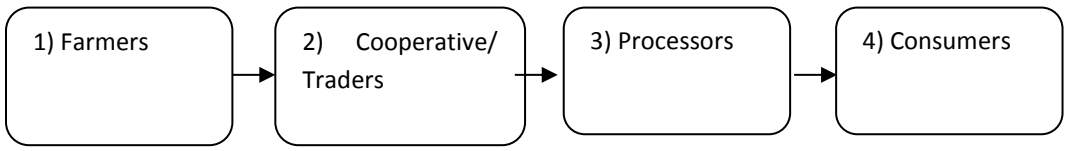
Agricultural Loan Guarantee Company (ALGC)

The ALGC is managed by aBi Trust, a fund which cooperates with business partners instead of interventions directly with individual farmers. The Trust offers guarantees on loans and other financial instruments that support agribusinesses and lenders to agribusiness. Value chains from five commodity groups have been initially targeted for support; maize, coffee, oilseeds, pulses and fruits and horticulture for export. The expectation is that at the end of this year dairy will be added to this group for support.

Through ALGC, aBi offers guarantees for individual deals and portfolio guarantees for larger agribusiness loan portfolios.

5.3 Demand for financial services

In order to assess the need for financial services in Uganda, the prevailing environment was examined through desk studies and several field visits. By interviewing farmers, cooperatives and processors a good overview of the whole value chain was gained. In the interviews issues such as opportunities and threats were discussed. Also key hurdles for growth and access to finance were mentioned. The results are summarized in the sections below.(see the figure and ref [13])



5.3.1 Farmers

As already mentioned, most farmers do not use formal financing. Asked if they could use external financing the answer was that indeed external financing would enable them to buy more cattle, not for trading but to build a reserve stock for lean times. This type of investment does not create additional farm income and therefore repayment becomes a challenge.

The interviews with dairy farmers further indicated that access to finance in itself (SACCOs or banks) was not the main problem. However, they are reluctant to pledge their land title to the banks as security. Beef farmers traditionally sell cattle on the local market when they need money. There is no commercial scheme to rear and to fatten the cows for sale. The large farmers have their own pastures to feed the cattle. Also one of the beef farmers

interviewed indicated that he did not have a loan and would use a SACCO credit if he needed one. But as with the dairy farmer, using the land title as collateral was viewed as a key bottleneck to bank financing due to the inherently high value that is attached to land and risk of loss associated with defaulting on the loans.

Dairy farmers generally lack good breeding stock and semen from high pedigree bulls. Besides it is difficult to get and to keep adequate labour on the farm taking responsibility for their job. Farm management was also cited as a challenge. Especially the optimum use of feed, the hygiene with milking, cow health, optimizing the reproduction cycle and in-heat detection. The high energy cost is a bottleneck to modernization and mechanization of the farm.

Beef farmers complained of the availability of sufficient and good quality feed. Like in dairy they also struggle with farm management issues; breeding and fattening, cow health; vaccinations, tick control. Financial recording also require improvement whilst energy costs hamper mechanization.

It emerged that a business plan is a pre-requisite for financing from mainstream banks, and yet this is something that presents a challenge for most small-scale farmers.

In summary, financing mechanisms are more accessible to members of organized groups e.g. cooperatives in combination with having a good business plan.

5.3.2 Cooperatives

Only a few livestock cooperatives have established themselves into proper business entities. Therefore support of projects (donors) is needed for a longer period. There are organizations (e.g. Heifer International, EADD, Agriterra and Land 'O Lakes) that work on a cooperative level providing knowledge and other services. Dairy cooperatives are more developed and have more experience than beef cooperatives because of the recent start of the latter. In general access to finance is not a problem for cooperatives because several projects/organizations support them. For example, dairy cooperatives could get funding for a cooling tank or for buying new breeding stock from aforementioned organisations.

5.3.3 Processors

For a large dairy processor like SALL (part of a large Indian conglomerate) it is not difficult to get a commercial loan from the bank. Although the conditions are not very attractive (interest rates are high, periods of the loan repayment are short) they have the opportunity to get financial services (also via their mother company if need to be).

However, for a small dairy processor like Mama Omulungi Dairy it is much more difficult to finance growth of the business. Equipment loans are sometimes made available by the equipment provider (lease or asset finance), but it appears challenging to attract bank loans to finance increased working capital needs of the growing business. This could also be related to the semi-monopoly position of Sameer which makes banks shy of financing relative newcomers like Mama Omulungi Dairy.

The medium sized meat processor Fresh Cuts last year invested in a new building and in new equipment (product line). Because of the large scale factory and the good business plan, it was relatively easy to obtain a loan from different commercial banks. Their popularity probably relates to the growth of meat consumption and the fact that Uganda is importing meat. In fact, Fresh Cuts cannot meet demand because of shortage of good quality live cattle.

In summary, the processors are the strongest link in the whole value chain. The factories are operated by experienced management. Due to good business and knowledge of the sector, these processors are profitable, although the supply of raw material is not very reliable. Plans for investment can be realized and can be financed by commercial banks.

5.3.4 Finance Matrix

The matrix below gives a schematic view of the main sources of access to finance for different groups in the value chain.

Figure 22: Sources of finance by value chain level

	Small Farmers	Cooperatives	Processors
Relatives	X		
SACCO's	X	X	
Micro finance institutes	X	X	
Commercial Banks		X	X

5.4 Summary of key observations

There is a wide range of suppliers of financial services active in Uganda. Farmers can get access to finance from a SACCO (sometimes via their cooperative) or microfinance institutes. Cooperatives can have access to finance from microfinance institutions and the best coops can get a loan from commercial banks or other financial institutions. Even though lending conditions of the commercial banks are not very attractive, a conclusion can be made that at least access to short term finance for every link in the value chain is generally available (through both formal and informal financing) albeit with limitations.

A significant gap exists in the offer of long-term finance between microfinance institutions, at the lower end of the spectrum, that concentrate on loans of less than $1,000 (about USS 2.6 million) and the relatively large-scale commercial banks at the other end that are reluctant to lend to SMEs in the agriculture sector. In both cases, the high interest rates are often prohibitive for long-term investments.

Equity funds, by providing long-term equity finance, contribute to addressing this funding gap. However, the vast majority of the existing funds are focused on large deals and target companies at the bank-friendly end of the spectrum.

There are several challenges on farm level to improve farm management aspects. With these improvements, much more profit can be made and more farmers will become a stronger link in the value chain. Cooperatives can help in achieving this goal.

An agri oriented bank like Centenary bank should be able to assess the risks involved in livestock projects and come up with a suitable debt offer but their loan cap is some EUR 1 million. Larger projects will need to be financed by larger banks such as Stanbic and if the project is really sizable multilaterals such as IFC may be

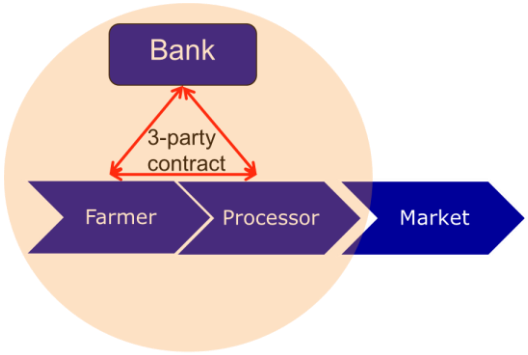
interested to provide long-term project financing. Donor funds from e.g. AECF may be available to improve the "bankability" of the project.

Answering the key question of this chapter; there are indeed several possibilities in agri-finance to increase the potential of the livestock sector especially with regards to long-term investment financing. The potential of the livestock sector in Uganda can be improved especially by the development of knowledge and management at the supply side. The most important aspect is to develop a reliable demand and supply side of the market. Also processors will benefit from a reliable supply and good quality of animals and products so that they can offer the products the consumers want. An integrated cluster based approach seems to be the best way forward.

How can the agri-financing to the livestock sector in Uganda be increased?

Across the board, the level of access to finance in the livestock sector seems to be acceptable when it comes to short-term loans. Most SACCOs and banks, such as Centenary bank, offer loan products to finance short-term working capital also to smaller farmers and cooperatives. However, when it comes to investment financing most banks and SACCOs are not able or willing to serve small farmers. In the first place this is due to the risks associated with the livestock sector. The value chain in the livestock sector is not yet well developed yet which makes it harder for banks to predict cash flows necessary to repay long-term loans. Besides, the collateral situation in most cases will not meet the bank's requirements. A guarantee fund such as the ACF could stimulate long-term lending to the agricultural sector by sharing part of the risk with the bank. However, it seems that the ACF is more successful in stimulating investment financing to processors than farmers.

The best option to improve access to finance to the sector is to improve the integration in the value chain. Modern value chains require traceability creating shorter chains with farmers and processors working closer together. An integrated value chain enables banks to develop value chain financing (VCF). VCF means financing farmers based on forward linkages with reputable off-takers (rather than focusing on the credit risk of the individual farmer alone). For example, investments by pig and poultry farmers could be financed subject to: (i) off-take contracts with processors , (ii) veterinary assistance provided by the processor, (iii) provision of day-old-chicks or piglets by the processor, (iv) provision of feed by the processor and (v) a tri-partite agreement between the bank, the farmer and the processor to define responsibilities.



Similar schemes are becoming the norm in other developing countries with modernizing food industries. However, it requires that processors have the organizational and financial capital to make the investments in back-ward integration in the chain. At this moment, there are only a few of these types of companies active in the livestock sector (e.g. Sameer in dairy) in Uganda.

5.5 Summary overview investment areas identified

The investment opportunities identified within the dairy, beef and poultry value chains are highlighted in the table below.

Investment Area	Investment Opportunity	Nature of opportunity (Investment/Trade)
Dairy		
1.	Set up of milk collection and cooling centres (MCC's)	Investment/Trade
2.	Investments in supply Milk tankers	Investment/Trade
3.	Investment in unpackaged chilled pasteurized milk distribution system	Investment/Trade
4.	Upgrade of Informal actors into Mini Dairies	Trade
5.	Upgrade of Dairy Plants	Investment
6.	Integrated Dairy farming/Processing Models	Investment
7.	Tanker Cleaning facilities	Investment
Beef		
8.	Combined Abattoir & Processing facility	Investment
9.	Commercial Ranching	Investment
10.	Feedlot establishment	Investment
11.	Butcher Equipment	Trade
12.	Improved Breeding Services	Investment
Poultry		
13.	Commercial Hatchery operation	Investment/Trade
14.	Commercial Poultry farm	Investment/Trade
15.	Chicken slaughter and processing facility	Investment/Trade
16.	Animal feeds production facility	Investment

5.6 Dairy Sub Sector- Investment project profiles.

The following investment project profiles for the dairy sub sector have been developed

5.6.1 Milk Collection and Cooling Centres

Profile Reference:	**Milk Collection and Cooling Centres**
Opportunity descriptor (investment?/trade?/support?)	**Investment/Trade Opportunity**

Investment Description/Business Rationale:

Why:

- The milk cold chain infrastructure across the entire country is inadequate creating a critical bottleneck in the supply of milk. Currently only a small fraction of total marketed milk can be channeled through the existing MCC infrastructure. . The investment will enhance the productivity, reduce spoilage and wastage and improve the quality of milk produced by smallholder farmers.
- There is a willingness by all processors interviewed to invest in this area, but most are constrained by the lack of appropriate financing.
- Milk collection and cooling centres is also a feasible investment for well organized farmers and is the critical bottleneck of an improved and more competitive dairy value chain. Smallholder farmers will be encouraged to organize group collection, transport and marketing of milk to a large scale processor.

Where:

- The greatest opportunity of investment in lies in the Southwest and Central region, which are already producing 50% of total milk production.
- The Eastern region also has potential as it has about 22% of the entire cattle population, 21% of total milk production, but only 3% of MCC coverage. This demonstrates significant unexploited potential.

Expected Outcomes

Business Outcomes

- Increased milk production, revenue and profitability
- Improved farmer organisation at association and cooperative level
- Increased value chain efficiencies

Development Impact

- Improve the economic benefits from smallholder dairy farming by improving productivity and quality, securing a reliable outlet for milk and promoting fair trade for smallholder dairy farmers.

Potential Local Investors/Partners

- Large scale/Medium scale processors (e.g. SAMEER)
- Well organized farmer cooperatives & groups (e.g. UCCCU)
- Dairy development projects

Potential Dutch Investors/Partners

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
- aBi Trust financing instruments
- Processor contribution (e.g. to civil works)

- Farmers- through small incremental payments/deductions from milk deliveries – as payments for shares

5.6.2 Milk Transportation Tankers

Profile Reference:	**Milk Transport Tankers**
Opportunity descriptor (investment?/trade?/support?)	**Investment/Trade Opportunity**

Investment Description/Business Rationale:

Why:

- There is an inadequate cold chain infrastructure across the entire country. Currently only a small fraction of total milk production can be brought to the market.
- The investment will reduce spoilage and wastage of milk during transit between collection centres and dairy processing plant, improve efficiency in milk collection (economies of scale), and improve the quality of milk supplied to market.
- There is a willingness by all processors interviewed to invest in this area, but are constrained by appropriate financing.
- Current capacity of milk tankers can transport only 20% of total milk marketed.

How:

This investment can be facilitated through:

- Investing /Financing existing processors to increase own existing fleet of tankers
- Financing established milk transport traders
- Financing well organized farmer groups.

Expected Outcomes

Business Outcomes

- Reduced spoilage
- Improved milk quality and safety
- Increased processor utilization.

Development Impact

- Improve the economic benefits of milk production for the smallholder dairy farmers through improving productivity and quality, securing a reliable and more profitable market for their milk exploiting the higher

Potential Local Investors/Partners

- SALL
- Existing and upcoming medium scale processors (e.g. Rainbow)
- Transporters (Kaaro Karungi)
- Small scale processors (Maama Omulungi)

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
- aBi Trust financing instruments

5.6.3 Processing and Distribution of Pasteurized unpackaged milk

Profile Reference:	**Processing & Distribution of Pasteurized unpacked milk**
Opportunity descriptor (investment?/trade?/support?)	**Investment/Trade Opportunity**

Investment Description/Business Rationale:

Why

- The biggest portion of milk trade is informal- largely in the trade of raw unprocessed milk with associated risk of product adulteration. This is however driven by consumer preference for lower cost products. This investment taps into this massive market, by offering an improved (pasteurized) product that meets consumer needs (cheap in price relative to processed milk), and at the same time, of improved quality and safety (not being guaranteed by the current raw milk trade).
- Several processors have the required level of infrastructure on which this distribution can be developed.

Where:

- This distribution network can be rolled out within the Kampala Peri Urban areas to begin with, and eventually across the country.

Expected Outcomes

Business Outcomes

- Formal processors can tap into the massive 'informal' sector.
- Profit maximization

Development Impact

- Improve the economic benefits from smallholder dairy farming by improving productivity and quality, securing a reliable outlet for milk and promoting fair trade for smallholder dairy farmers.
- Improved hygiene of unpackaged milk sales

Potential Local Investors/Partners

- Large scale/Medium scale processors (e.g. SAMEER)
- Small scale processors (Maama Omulungi)
- Loose milk traders (Katwe Dairies, Kaaro Karungi)

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
-

5.6.4 Upgrade of informal processors into Mini Dairies

Profile Reference:	**Upgrading of 'informal' processors to Mini Dairies**
Opportunity descriptor (investment?/trade?/support?)	**Trade Opportunity**
Investment Description/Business Rationale:	
Why • The informal sector represents the largest end of the milk market (80-90%), and as such cannot be ignored. Many cottage industry actors have invested successfully to varying degrees, and are now emerging as competitive producers especially of yoghurt. • There are several actors who are willing and interested in growing their businesses. • Products from current actors are high profit/ high margin products- such as yoghurt	
Expected Outcomes	
Business Outcomes • Increased profitability through value addition • Increased processing efficiencies **Development Impact** • Improve the economic benefits from smallholder dairy farming by improving productivity and quality, securing a reliable outlet for milk and promoting fair trade for smallholder dairy farmers. • Improved hygiene of unpackaged milk sales (food safety aspect)	
Potential Local Investors/Partners	
• Cottage industry actors (producers of yoghurt) • Loose milk traders (Katwe Dairies, Kaaro Karungi)	
Available Investment/Support Instruments	
PSI	
Alternative (local) financing Options	
• Agricultural Credit Facility (ACF) •	

5.6.5 Upgrade of Existing Dairy Plants

Profile Reference:	**Upgrading of Existing Dairy Plants**
Opportunity descriptor (investment?/trade?/support?)	**Investment**

Investment Description/Business Rationale:

Why

- The investment in new equipment will improve factory efficiency of milk processing in the dairy plant, reduce operational costs and maximize profit. The majority of dairy plants in Uganda have relative older equipment, which is inefficient, high in energy consumption and with many break downs creating bottlenecks in the daily processing.
- Most processing capabilities are in milk pasteurization. Opportunities exist to upgrade dairies into new product lines particularly UHT and Powder milk production

Where.

- Most dairy plants are based in the Central and South Western milk sheds. One factory, Soroti Dairies exists in the Eastern Region, which has 22% of cattle population and accounts for about 21% of total milk production.

Expected Outcomes

Business Outcomes

- Improved efficiencies, and increased profitability
- Diversification into new products and markets including the export market

Development Impact

- Improve the economic benefits of milk production for the smallholder dairy farmers through improving productivity and quality, securing a reliable and more profitable market for their milk exploiting the higher level markets in the domestic and export markets.

Potential Local Investors/Partners

- Existing small scale processors (e.g. Rainbow, Maana Omulungi, Seasons Dairies)
- Existing larger scale processors with established but older plants

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
-

5.6.6 Integrated Dairy Farming/Processing business

Profile Reference:	**Dairy Farm/Processing business**
Opportunity descriptor (investment?/trade?/support?)	**Investment**

Investment Description/Business Rationale:

Why

- This model is feasible- as demonstrated by Jesa. There are some potential local partners (processors or dairy farmers). This model also delivers good development outcomes, in addition to solid business outcomes

Where.

- Most Dairy plants are based in the Central and South Western milk sheds. One factory, Soroti Dairies exists in the Eastern Region, which has 22% of cattle population and accounts for about 21% of total milk production.

Expected Outcomes

Business Outcomes

- Maximization of profit through backward integrated process

Development Impact

- Premium prices to farmers, provision of support services such as VET Services, AI and technical expertise

Potential Local Investors/Partners

- Existing commercial farmers
- Existing processors

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
-

5.6.7 Tanker Cleaning Facility

Profile Reference:	**Tanker Cleaning Facility**
Opportunity descriptor (investment?/trade?/support?)	**Investment**

Investment Description/Business Rationale:

Why

- No facility exists for cleaning of milk tankers. Current milk tanker cleaning techniques are not professional, are very unhygienic and compromise milk quality, posing a threat to consumers. Such an investment would have the highest prioritization and backing by the dairy regulator DDA.
- The population of milk tankers is increasing and is estimated currently at over 100.

Where

- Such a facility will have to be located in Kampala, as all milk tankers supply into Kampala

Expected Outcomes

Business Outcomes

- Profitable business investment

Development Impact

- Reduced risk of hazard of unhygienic and unsafe milk consumption.

Potential Local Investors/Partners

- Existing Milk tanker owners

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
-

5.7 Beef Sub Sector- Investment project profiles

The following investment project profiles for the beef sub sector have been developed

5.7.1 Combined Abattoir Processing facility

Profile Reference:	**Abattoir/Processing facility**
Opportunity descriptor (investment?/trade?/support?)	**Investment**
Investment Description/Business Rationale:	
Why: • Existing abattoirs are overstretched due to the rapid urbanization of Kampala. Some are operating at over 200% of installed capacity. These abattoirs are characterized by extremely poor hygiene standards • Current abattoirs are located within the capital city Kampala, with insufficient holding/resting area's for the animals. • There is a growing and unmet demand for high quality premium beef at both the local and regional export levels. Current processors are unable to meet existing demand. An integrated business model of an abattoir in combination with meat processing can deliver attractive margins, and can safeguard the quality of the final products **Where** • Proposed location is Kampala district,as a central location to tap into supply from all parts of the country	
Expected Outcomes	
Business Outcomes • Realization of a modern abattoir and meat processing facility at a strategic spacious location outside of Kampala • Profit maximization from local and regional demand for high quality premium beef	
Potential Local Investors/Partners	
• Existing processing companies,(Rachers, Quality cuts, Top Cuts).	
Available Investment/Support Instruments	
• PSI	
Alternative (local) financing Options	
• Agricultural Credit Facility (ACF)	

5.7.2 Commercial Ranching

Profile Reference:	Commercial Cattle Ranching
Opportunity descriptor (investment?/trade?/support?)	Investment

Investment Description/Business Rationale:

Why:

- There is an unmet and growing opportunity in the market for high quality premium beef.

Where

- Several potential locations particularly within the cattle corridor

Expected Outcomes

Business Outcomes

- Profit maximization.
- Increased efficiency- most ranches are operating far below capacity

Potential Local Investors/Partners

- Existing Ranchers and / or JV with foreign partners

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

-

5.7.3 Feedlot Establishment

Profile Reference:	Feedlot establishment (
Opportunity descriptor (investment?/trade?/support?)	Investment

Investment Description/Business Rationale:

Why:

- There are opportunities in the supply chain, to procure weaned calves and young bulls in the dry season at very cheap prices, and to sell them for a substantial profit after fattening.
- Sugar factories are available in Uganda that produce large quantities of cheap molasses
- Crop residues and urea are available

Where

- Several potential locations particularly within the cattle corridor

Expected Outcomes

- A modern and well managed feedlot business located near one of the sugar estates.

Business Outcomes

- Profit maximization by planned fattening and sales at times when demand is high (Christmas, Idd, Easter)
- Increased efficiency by buying livestock when they are cheap, and sell them after fattening at premium

prices
Potential Local Investors/Partners
• Sugar factories or local beef producers
Available Investment/Support Instruments
PSI
Alternative (local) financing Options
•

5.7.4 Butcher Equipment

Profile Reference:	**Butcher Equipment**
Opportunity descriptor (investment?/trade?/support?)	**Trade Opportunity**
Investment Description/Business Rationale:	
Why: • The roadside and market stall butchers number between 5000-7000 and account for 75-80% of all meat sales in the country and are the backbone of the meat supply chain. They will remain an in important factor in the meat supply chain for the foreseeable future. • Facilitation of these butcheries with coolers and improved weighing scales will improve their ability to provide improved quality products. This will be a point of competitive advantage, that most butchers will embrace	
Expected Outcomes	
Business Outcomes • Improved business performance	
Potential Local Investors/Partners	
• Existing butcheries and producers of pre-packet meat products like Fresh Cuts	
Available Investment/Support Instruments	
PSI	
Alternative (local) financing Options	
•	

5.7.5 Animal Breeding/AI Services

Profile Reference:	**Animal Breeding/AI services**
Opportunity descriptor (investment?/trade?/support?)	**Investment/Trade Opportunity**
Investment Description/Business Rationale:	

- High demand with subsequent high prices for breeding stock, both in dairy and beef sectors
- Investment in a modern well managed livestock farm, with main goal to produce breeding animals with records

Key technical assumptions behind investment:

➢

Expected Outcomes

Business Outcomes

- Establishment of a top class breeding farm, supplying all the pure breeds in demand on the Ugandan market
- Making use of modern techniques like embryo transfer and artificial insemination

Potential Local Investors/Partners

-

Available Investment/Support Instruments

PSI

Alternative (local) financing Options

-

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5.8 Poultry Sub Sector- Investment project profiles

The following investment project profiles for the poultry sub sector have been developed

5.8.1 Hatchery

Profile Reference:	**Hatchery for Day old Chicks (DOCs)**
Opportunity descriptor (investment?/trade?/support?)	**Investment opportunity**
Investment Description/Business Rationale:	
Why: • Day-old chicks are in short supply in Uganda and imports are relied on to cover the deficits in supply • Many of the existing hatcheries are operating below capacity due to technical and financial constraints. **Where** • Within the central Uganda region (Kampala, Entebbe, Mukono, Jinja) [where the commercial production of exotic chicken is concentrated]	
Expected Outcomes	
Business Outcomes • Increased number of DOC for supply to market • Stable poultry market due to steady supply of DOC **Development Impact** • Availability of affordable DOC for small-holder farmers that translates into increased poultry production at even the lowest levels thus increasing incomes and food security.	
Potential Local Investors/Partners	
• Existing large-scale chicken farmers	
Available Investment/Support Instruments	
Alternative (local) financing Options	
• Agricultural Credit Facility (ACF) • aBi Trust financing instruments	

5.8.2 Commercial Poultry Farm

Profile Reference:	**Commercial Poultry Farm**
Opportunity descriptor (investment?/trade?/support?)	**Investment opportunity**
Investment Description/Business Rationale:	
Why: • The demand for poultry products in Uganda is not adequately meeting the supply. • There is great export potential to regional countries like South Sudan, Rwanda and DRC	

Where:

- At the moment the central region offers the best opportunities for poultry production because it is the location of the biggest local market and the source of most of Uganda's animal feeds.

Expected Outcomes

Business Outcomes

- Profit maximisation for investors

Development Impact

Increased availability of chicken for food on the market.

Potential Local Investors/Partners

- Poultry processors like Ugachick and Fresh Cuts

Available Investment/Support Instruments

Alternative (local) financing Options

- Agricultural Credit Facility (ACF)
- aBi Trust financing instruments

5.8.3 Chicken Slaughterhouse and Processing Facility

Profile Reference:	**Slaughterhouse and Processing Facility**
Opportunity descriptor (investment?/trade?/support?)	**Investment opportunity**

Investment Description/Business Rationale:

Why:

- There is only one slaughterhouse for chicken in the whole of Uganda.
- A slaughterhouse with cold storage can take advantage of seasonal fluctuations in supply by controlling the market during periods of scarcity.
- Increasing demand for hygienically processed products.

Where:

- At the moment the central region offers the best location for a poultry slaughterhouse because of its location to the main producers of poultry.
- The power supply (vital for cold storage) is also more reliable in the central region.

Expected Outcomes

Business Outcomes

- Investors become a major supplier of processed chicken and is assured of supply from producers.
- Seasonal supply fluctuations mitigated using cold storage facility
- The existence of slaughterhouse/cold storage stimulates supply and production because farmers are no longer limit their output to only what they think the market can absorb at any specific time.

Development Impact • A constant supply of chicken meat to feed the population regardless of the season .
Potential Local Investors/Partners
• Poultry processors like Ugachick and Fresh Cuts • Big supermarket chains • Meat processors like Uganda Meat Producers Union
Available Investment/Support Instruments
Alternative (local) financing Options
• Agricultural Credit Facility (ACF) • aBi Trust financing instruments

5.8.4 Animal Feeds Plant

Profile Reference:	**Integrated Animal Feeds Production**
Opportunity descriptor (investment?/trade?/support?)	**Investment opportunity**
Investment Description/Business Rationale:	
Why: • There is a market for quality poultry feeds that is not being adequately catered for by the present producers. • There are no producers with storage facilities for raw materials (cereals and grains) to ensure constant supply. A producer who can assure constant supply at the same quality (even during the off-season periods for cereals for raw materials) will be assured of cornering the animal feeds market. **Where:** • The central region has the highest number of commercial poultry farmers and thus the biggest market for poultry feeds. • The raw materials (maize, soya etc) can be grown in the north and east of the country where there is land for agriculture and a conducive environment for cereal production.	
Expected Outcomes	
Business Outcomes • Regular feeds supply will stimulate the growth of all other areas of the poultry industry. **Development Impact** • Source of income and livelihoods for out growers and their families • Reduced strain on the limited supply of maize and other cereals that is competed for by humans for food and feed producers. More grain available for food thus increased food security. • Grain stored in silos can be utilized during food shortages.	
Potential Local Investors/Partners	

• Large and Medium-scale cereal/grain farmers as out-growers
Available Investment/Support Instruments
Alternative (local) financing Options
• Agricultural Credit Facility (ACF) • aBi Trust financing instruments

Annex 1: TOR

Identification of lead investments for the development of livestock sector in Uganda

INTRODUCTION

In support of policies of EKN to stimulate food security and economic diplomacy as envisaged in the MASP for 2012-2015, the following outlines the ToR for the identification of windows of opportunity for development of investments in the livestock sector in Uganda ('livestock market study').

The demand for dairy and meat products in Uganda is substantial and is triggered by a 5-6 percent growth in per capita income, the population growth (3% p.a.) and the rural-urban migration in Uganda. Neighboring countries demonstrate similar trends of varying magnitude. Uganda's livestock sector may benefit from the increased domestic and regional demands from e.g. South Sudan, DRC, Rwanda and Kenya. This offers investment opportunities in dairy and/or meat subsectors and indirectly could generate income and employment opportunities to farmers. Farmers and their organizations would benefit for instance from capacity development, competition in collection/processing and regional integration.

The study into the identification of promising product-market combinations and the subsequent discussions aims at stimulating investments into the livestock sector. Investors could benefit from more information on the business climate including the facilitation of investment licenses, access to finance, and regulatory requirements and cross-border transactions. Furthermore, it would be helpful for investment funds and investors to get a better picture about the political economy in Uganda and the power structures of the business actors in the livestock sector.

This 'livestock market study' will specifically yield results for the following initiatives:

- The Agribusiness initiative Trust (aBi Trust), which is a multi-donor fund in support of improving the productivity and efficiency in specific value chains. The aBi Trust is considering to include dairy or livestock in the list of eligible value chains for support (currently maize, pulses, coffee, oil seeds and horticulture for export);
- The Dutch trade mission to Uganda-Rwanda in June 2012 regarding agribusiness and renewable resources. Findings of the study to be presented as part of preparations in May;
- The 'Dutch Dairy Development Partnership', which groups Dutch enterprises, funds and knowledge institutions interested in dairy development in Kenya and Uganda. On behalf of the partnership, the Netherlands-African Business Council (NABC) and The Friesian (Dairy Development consultants) have requested Dutch funding (from 2g@there-OS) for a 'dairy study and trade/know-how promotion for Kenya-Uganda'. Some elements of the ToR could be implemented jointly with this partnership;
- Agriterra (linked to Dutch farmer organisations) support for capacity building of Ugandan farmer organisations and cooperatives (pre-financing phase);
- The identification of new projects and business partners for the Private Sector Investment (PSI) instrument for support to Ugandan-foreign joint ventures for innovative investments that are not trade distorting.

FINAL RESULT

The final results of the analysis are:

1. An overview of prospects/leads for investments in the Uganda livestock sector. This is a report on growth opportunities by "actor-product-market" combination, which will be based on technical annexes that contains the results of the demand analysis, supply analysis, actor analysis and the investment climate analysis;
2. A list of potential Dutch companies interested to invest in the Uganda livestock sector[82], including an overview of subsidy instruments that can be tapped into for the implementation of the investments. The analysis will follow the structure below:

Ad 1) Identification of prospects for investments (Actor-product-market combinations)

This main report contains the prospects for investments in the Ugandan livestock sector: i.e. a description of promising "actor-product-market" combinations. It also contains a SWOT-analysis of the livestock specified by agro-ecological region (Strengths, Weaknesses, Opportunities and Threats). Furthermore, it summarized the findings of the 6 analytical topics. Moreover, it contains a section on lessons learnt with livestock projects and possible synergies with ongoing activities and financing modalities.

The following 5 analyzed topics will be annexed:

a. Demand analysis[1]

The first step in the analysis is to get an image of the presence of a market for the produce. The analysis will focus on the local, as well as the regional market (South Sudan and EAC member countries) for livestock products (dairy and meat) and the current trends and dynamics within these markets. Questions to be answered are, for example:

- How will the domestic market for dairy and meat develop itself?
- What is the potential and dynamics for regional exports, and for what product(s)?
- What can be said about export-parity prices by border-posts for most promising products?
- What is the supply and demand relationship in terms of price elasticity?
- How many households could indirectly benefit from this market potential?
- What is the relation between household income and the demand for livestock products?
- What are the other determinants (think e.g. of quality) of the demand for livestock products
- What are some of the sanitary issues affecting cross-border trade in livestock and livestock products?
- Are there seasonality effects?
- Who are the main competitors?
- What is the potential demand for the different kinds of livestock products?

b. Supply analysis

After (potential) demand has been identified, the next step in the analysis is to identify production areas and opportunities. This part includes an analysis of where in Uganda the livestock sector is concentrated, with a focus on small market oriented farmers. After identifying where the (small market-oriented) livestock farmers are active, the analysis can focus on questions such as:

- What are the production volumes? (for example: how much of the milk is processed?)
- What are the processing capacities of the producers?

[82] This part could be jointly implemented by the before mentioned 'Dutch Dairy Development Partnership'.

- What are opportunities for growth in particular areas?
- What are the bottlenecks? (for example: What are the logistics circumstances per region?
- What are the profit margins per product?
- To what extent is there penetration of foreign livestock products on the Ugandan market and what is the impact of this supply?
- What are the reasons behind the penetration of foreign livestock products in the Ugandan market?
- What will the impact in relation to food security and nutrition be when supply is increased?

c. Actor analysis

After identifying where activities in the livestock sector within Uganda are located, the company and regulatory public actors within this area can be identified, their structure/relationships assessed and their characteristics analyzed. The main question for all actors/activities is what the main strengths and weaknesses are. Where possible, differences per regions should come forward in the analysis. Other questions to be asked include:

- What is the vision of identified actors regarding the up scaling of activities?
- What is the level (quality and quantity) of production processes/methods?
- Are there any gaps in knowledge, skills, and/or finance?
- What are the dynamics of the industries – open competition, distortions?
- What is the inputs situation, and how is it changing?
- To what extent is livestock government policy existing and what are the projected gains or losses due to the lack/presence of government policy?
- What is the position of women within the analyzed livestock sector actors?

d. Investment climate/politico-economic analysis

This part of the analysis will focus on the investment climate in the area where activities related to the livestock sector are located. A number of contexts will be analyzed, including the political, the regulatory, and the trade and transport contexts. Furthermore, attention will be paid to the factors that constitute enabling environment for activities in the livestock sector. There should be a clear distinction between public and private investment (circumstances). Other questions to be answered include the following:

- What are the potential pitfalls for investment?
- What are the investment incentives?
- What is the profitability in the industries?
- How competitive is the Ugandan livestock sector in comparison to those in neighboring countries?

Part of the investment climate analysis will be a political economic analysis. It is no secret that some companies benefit special safeguards/political protection. This analysis will show what the political environment is for enhanced competition in the livestock sector in Uganda.

e. Access to finance and developments

This part will focus on the different modes of commercial financing for the identified investment opportunities. This could be through loans from commercial and development banks or through opening up the share capital to equity investment funds.

- What options of commercial lending are feasible?
- What options of equity financing do exist (think of farm investment funds)

- What opportunities does one see to increase agri-financing to the livestock sector in Uganda?

f. Inventory ongoing support activities and lessons learnt

Attention will be particularly focused on past experiences, the impact of those experiences and the related lessons learnt. This will lead to an in-depth historical analysis of the livestock sector. Investments in the livestock sector have been accompanied by several public support mechanisms, including those facilitated by the GoU and foreign donors. An inventory will be made of existing livestock initiatives and projects, their duration and magnitude, and the lessons learnt.

Ad 2) Identification of potential Dutch partners and available Dutch support instruments

This analysis can start independently of the other parts of the analysis described so far. In order to benefit economic diplomacy, it is in the interest of the embassy to know who the potential partners in the Netherlands are to invest in the livestock sector in Uganda.

- What is the nature of the potential Dutch partner organisations and what are their interests?
- What is the field of expertise of the potential Dutch partner organisations?
- To what extent can they help reduce gaps in, for example, knowledge, skills, and/or finance?

In order to give potential partners an overview of the possibilities to invest in the Uganda livestock sector a list will be drafted containing the instruments The Netherlands has in general to support investment (e.g. psi, etc.). Also, it will provide an overview of the possible partnerships between potential investors and organisations that EKN is engaged in activities within Uganda. The list of organisations also indicates in what way investment can be channeled in cooperation with these very organisations.

Other related activities

There are some activities to keep an eye on, in relation to this ToR. The Ugandan Ministry of agriculture, animal industry, and fisheries (MAAIF) has issued a ToR for a consultancy mission to promote dairy and meat production in Uganda. The two studies are separate for meat and dairy, but they will both commence in January and proceed over a period of two months.

The goal of the dairy consultancy mission is "*To formulate bankable project proposals for dairy value chain development, enhance dairy market access and value addition, increase milk production and productivity, create an enabling environment and strengthening institutional capacity."*

The overall objective of the meat study is *"To design bankable interventions (project proposals) that lead to sustainable increases in production of meat in Uganda to meet domestic demands and surplus for export."*

Annex 2: Dutch Investment Support Instruments

Dutch Government Financial Instruments

PSI: Private Sector Investments is a subsidy programme for innovative investment projects by a joint venture with a Ugandan and a foreign partner. Important is that the investment aims at introducing products or services that are new to Uganda. PSI is a subsidy programme that is executed by AgentschapNL, with funding from Dutch development aid. Total project size is limited to € 1.500.000,-; the maximum subsidy is 50 percent of the total project amount.

Website: http://www.agentschapnl.nl/programmas-regelingen/private-sector-investeringsprogramma-psi

ORIO: Development relevant infrastructure development is a subsidy programme for public investments. The project has to be submitted by the government of the receiving country. After approval, the project will be subject to international tendering procedure. For each eligible country, a shortlist of eligible sectors is shows in which sectors the projects can be submitted.

Website: http://www.agentschapnl.nl/en/node/50350

FMO: FMO – the Dutch development financial institution – invests mainly in the financial sector, infrastructure, energy and housing. Since 2011, FMO has also received targeted funding for investments in the agribusiness sector. In Uganda, FMO has invested in the Bank of Africa. Besides investments with FMO's proper funds, FMO is also managing several funds on behalf of the Dutch government (e.g. infrastructure, energy). FMO is also participating in various private equity funds that have a mandate to invest in agribusiness.

Website: http://www.fmo.nl/

FMO-FOM: A separate activity of FMO is the FOM (Fonds Opkomende Markten), which is financed by the Dutch ministry of Economic Affairs, Agriculture and Innovation. FOM especially aims to finance foreign daughter companies of Dutch companies. Financing may include working capital and can be done in local or foreign currency.

Website: http://www.fmo.nl/fom

FDOV: The public private partnership facility of DGIS (the Dutch development aid directorate general) has been transformed to two separate facilities: one facility focused on water and one facility focused on food security and sustainable entrepreneurship. Maximum project size is € 20.000.000,-, maximum duration 7 years. The deadline of the first tender is 11th June 2012, but the facility may well be extended with new future tenders. The facility is managed by Agentschap NL.

Website: http://www.agentschapnl.nl/en/programmas-regelingen/ppp-facility-sustainable-entrepreneurship-and-food-security-fdov

MMF: Matchmaking Facility: local businesses (in this case Ugandan) can apply for a voucher worth € 5000,- . This voucher can be used for limited market research and a partner search arrangement

by a Dutch consultant. The MMF can only be approved after a positive screening by the Dutch embassy in Uganda.

Website: http://www.agentschapnl.nl/en/node/49174

PIB: Partners in International Business. This instrument has replaced the former 2@there. A consortium of Dutch companies and knowledge institutions can form a public private partnership with the Dutch government to jointly grasp a specific market opportunity in a foreign market. Each consortium will have a tailor made multi-year programme that may include G2G-projects (Government to Government), Market scans, Trade missions, etc.). Programme is exectured by AgentschapNL, which often will also be one of the partners in the consortium.

Website: http://www.agentschapnl.nl/programmas-regelingen/partners-international-business-pib

2g@there OS: A pilot has started in March 2012, with NABC as the consortium manager. 2g@there-OS aims to unite development objectives with international business development. One of the pilot programmes is focused on the dairy sector in Uganda and Kenya. Within the consortium, Dutch companies, knowledge institutions and NGO's are working together to arrive at sustainable solutions for the dairy sector in Uganda and Kenya. The programme includes: stakeholder analysis, market research, value chain analysis, development of practical training instruments, setting up of demonstration farms, round tables with the local dairy sector and inbound and outbound trade missions which include technical seminars and matchmaking.

Website: www.nabc.nl

IMVO: Dutch companies can request a voucher in order to receive advisory services in the area of IMVO – International Corporate Social Responsibility. The value of the voucher is maximum € 10.000,-. This facility is managed by MVO Nederland, but the actual services will be provided by a Dutch consultant.

Website: http://www.mvonederland.nl/content/pagina/imvo-vouchers-0

NL Embassy: Dutch embassies have significant bilateral aid budgets available. Since the embassy in Kampala has financed a substantial part of the underlying livestock study, it is quite likely that funds will be committed to projects focusing on this sector. Companies can access these funds by submitting proposals directly to the embassy or by teaming up with other actors such as SNV or Agriterra.

Multilateral

IFC The International Finance Corporation (a daughter company of the World Bank) can finance larger projects (either through loans or through participation). IFC prefers project sizes well over 5 million US$. Besides direct financing, IFC has been setting up many targeted funds that are managed by local banks or by independent fund managers (e.g. Rural Impulse Fund). The amounts financed in this indirect way may vary from micro-finance to approximately 5 million US$.

Websites:
http://www1.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/home

-http://www.gafspfund.org/gafsp/content/rwanda

EU

The EU is spending a substantial amount through the European Development Fund, which works with straightforward tendering procedures that will normally be open to any eligible European company. Besides the EDF, the EU delegation may also decide to spend locally substantial funds in agribusiness. Obviously other donor countries also have their own bilateral funds that may well be in reach of Dutch companies.

EADD

The East Africa Dairy Development programme is partly funded by the Bill and Melinda Gates Foundation. This programme is covering several countries in East-Africa and could also be an option for financing of private sector projects within the dairy sector – provided the development angle is covered.

Website: http://eadairy.wordpress.com/

Annex 3: Dutch Companies interested in livestock in Uganda

1. Agrifirm Group BV
2. Cobb Africa
3. ISPS BV
4. Jansen Poultry Equipment
5. K.I. Samen
6. Koudijs Animal Nutrition
7. Merck Animal Health
8. Mueller BV
9. Plumex
10. Pluriton
11. Teeuwissen
12. VION Food Group

Annex 4: Report of Investor Board visit from April 22-27th 2012

Where to invest in the livestock sector of Uganda?

Report of the visit of the Agriterra Investor Board to Uganda from April 22 till 27, 2012. Board members: Arian Kamp, Rien Geuze en Guus Laeven.

The mission was offered a diversified and interesting program (see appendix). This was helpful to get a broad impression of the Uganda livestock value chain. This chain has a lot of challenges comparable with the old dilemma:

In Africa hardly anybody wears shoes, which means:

- *there is no market for the shoe industry…..*
- *there is a tremendous opportunity for the shoe industry…..*

Our approach as investment board of Agriterra has been neither of the above statements: we started from the question **where can our investment contribute to food security in Uganda** by partnerships with local companies in actual developments, riding on current and expected trends. Our intention was not to participate in the long time existing "donation industry". During our short visit we have looked at "low hanging fruits": opportunities in which the knowledge, expertise and technologies of North-Western European agro-companies immediately would be applicable and yield returns on investments, be it with high risk. For detailed information on the livestock sector see attachment: "*Uganda: Livestock sector brief" of Uganda Investment Authority* (att. 1).

Short descriptions of our findings about livestock sector in Uganda:

- 80 percent of the Uganda population calls themself "cattle farmer": people have 1 or 2 animals for saving reasons: their "bank-account on 4 legs", made liquid at the moment of the next cash flow necessity;
- management, feeding, disease control, breeding, artificial insemination are on extremely poor level, as are the genetics of current animal population; there are only few professional/commercial farmers;
- 80 percent of milk and beef production is sold "informally", going directly from producer to consumer without entering an official dairy or slaughter facility; the "formal" milk sector only uses 30 percent of capacity; besides milk supply varies enormously with the rain seasons: at the biggest dairy plant (Sameer) from 60 ton to 400 ton per day;
- slaughterhouses are out-dated and severely under-utilized; slaughter fee is UGX12000 per bovine, reason why a slaughterhouse cannot be considered a feasible economic activity; the "fifth quarter" of the animal is totally used in the informal market;
- annual beef production is estimated at 200k tons; indigenous cattle breeds have extremely low performance; genetic make-up is so low, that full replacement would be appropriate; average slaughter age of beef cattle is over 5 years, while carcass weight is around 100 to 130 kg; grass fed animals should reach an average of 200-250 kg; commercial beef farming hardly exists; main beef supply is outflow of "mid-term saving system";
- annual total milk production is estimated around 1.3 billion kg; average milk production per cow is estimated around 800 kg per year;
- supermarket prices of livestock products are high: milk UGX 1200/kg and beef UGX 6000/kg; pork UGX 8000/kg, chicken UGX 12000/kg; farm gate milk prices vary from UGX 350 to 1200 according to the season, average is UGX700 per kg;
- value of indigenous heifer is UGX 800k; value of Holstein (pure or crossbred) UGX 3.500k;
- in spite of extremely high consumer prices for livestock products, supply is short

- dairy in Uganda is utilizing compound feed at a limited scale: < 2 kg per cow per day; feed quality is unknown
- poultry production is still small, but sold at high prices: UGX 15000 = € 4,83 per broiler; chicken is prepared at home for special visitors and special occasions: at Christmas and at Eastern; poultry production is expected to grow with income per capita.
- feed quality is at low quality level; the few more professional poultry farmers mix their own feedstuffs; high technology feed production seems non-existent, causing severe inefficiencies and endangers food security;
- ingredients for compound feed like maize are not readily available as maize is mainly grown for human consumption, internally and for export; only left-overs are available to put into compound feed; there is very little stock for maize, nobody seems to be prepared to take risk on that.
- sourcing ingredients for compound feeds in Uganda and neighbour countries is necessary to develop growth in the livestock market.
- local banks only offer high interest rates: 20 to 30 percent. For investment opportunities loans in dollars should be considered (interest rate 8%).
- electric energy is expensive; security of electric energy is a serious problem; each company needs diesel-aggregates for about 5 times a day when public electric supply fails.
- Uganda is a land-locked country, which makes costs of import high: road transportation from harbour Mombasa to Uganda (1200 km) costs 200 US$/ton, just as much as the transport by ship from Rotterdam to Mombasa!

Recommendations:

- Start at the market for feed and higher quality meat. Improved feed efficiencies will result in lower prices for consumers and higher profits for farmers. Uganda has a lot of fertile land for pasture, food and feed crops. An improved dairy and meat chain will be highly valued. With growing economy (e.g.: recently oil was found in Uganda) more and more consumers will enter the upper market segment, which is expected to grow substantially.
- Partner up with successful companies and remain independent from government and donor-funded enterprises.
- Carry out a feasibility study on two projects with two different partners:
    - Mukwano: www.mukwano.com (Tony Gadhoke CEO); Mukwano Industries in Kampala is a highly successful and well-managed company in production and retail of vegetable oil with a turnover of 450 million dollar (see attached company profile):
        - Study an investment to use the waste products of the Uganda vegetable oil production (soap and cooking oil) for the production of compound feeds. Mukwano expressed its need for knowledge to upgrade the value of its sunflower oil cake and interest in partnership in these investments. This valorisation of rest products of the food industry is hardly known in Uganda.
        - Mukwano owns basic poultry production facilities, which were build by Palestinians in the seventies, but never used. Mukwano looks for partners to set up poultry meat production in combination with compound feed production.

    - Fresh Cuts: www.freshcuts.biz (Stephan Duyck CEO and owner): a highly successful and well-managed processor and retailer of meat for the upper segment with sufficient demand for high

quality meat products. Actual growth in turnover is 50 percent per year; next 5 year budget is +15%/year (conservative). This company is in need of more reliable supply of poultry and beef as well as more sophisticated slaughtering facilities to protect and enlarge its market. An (unofficial) import ban on poultry meat protects Uganda producers.

- Study an investment together with this company in backwards integration in the chain, starting with the above-mentioned broiler production. This should create a reliable off take for farmers as well; quality requirements of the butchery can be translated into higher farm gate prices, which will create a huge incentive to improve quantity and quality using more professional management and transport. Technical and organisational support to farmer groups or coops could be added such as collection, quality control, disease control and management.

April 2012

Arian Kamp
Rien Geuze
Guus Laeven

Appendix: Program for the investor board with objectives and comments

Day	Meeting	Objectives and Comments
23/4	Dr Jolly Zaribwende, Executive Director DDA Dairy Development Authority	O: To get a high level perspective of the dairy sector in Uganda; C: authority for regulation, extension, government advise, strengthen dairy institutions;
	Dr. Martin Casisi, *Principal Officer of Veterinary Inspection of Ministry of Agriculture Animal Industry and Fisheries*	O: To get perspective of government focus in livestock sector; C: 112 inspectors at 24 ports of entry at UG border (eggs, day old chicken (NL, KE), table birds, skins, game trophies, etc.); important diseases: rabies, fmd, rinderpest, contagious bovine pneumonia (most infections come from wildlife in parks/game reserves meeting crossing cattle herds), African swine fever (no vaccine = no government policy); no labs, no laws…. Indigenous cattle (94% !) are slow growers with long legs, thick bones and little body mass; slaughtered carcass weights up to 150 kg (should be 240 kg if only grass fed) at average age of 5 (!) years. Impressive practical views on livestock sector: animal feeding is virgin area; advise to invest in hatchery; sceptical about reviving of coops. Needed improvements: feed, breed, management/husbandry, veterinary services, sales, education of farmers, all together!
	Ms. Tracy Hathorne *(CEO of Uganda Meat Producers Association)*	O: To get high level perspective of the beef sector in Uganda; C: No professional view on sector; pleading to prioritize investment in new slaughterhouse to improve farm gate prices without any market knowledge and management capacity. UG bans beef imports (“BSE”); beef exports (25%0 to Kenya (shortage), South Sudan (UN personnel), Congo (little), Rwanda (not enough cattle), Norway (initial NGO-idea). General problems: “primary reason to have cattle is to have a bank on 4 legs; cattle are sold when cash is needed to pay hospital bills, school fees, etc.”; beef cattle ranching is also done at community land; milk and beef are by-products of the “bank”.

	Mr. Gordon Mutima Mr. John Ahimbisibwe (UNDATA Informal Traders)	O: Informal traders account for around 80% of raw/boiled milk and yoghurt sales; C: structured small scale collecting, processing and marketing of milk; heavy underutilized processing equipment; entrepreneurial attitude.
24/4	Nuvita – Human Food (miling wheat flour, sugar factory) and Animal Feed Supplier	C: only distribution centre (3 processing plants in Jinja, just bought a dairy processing plant in Mbarara); predecessor was first company to make animal feeds in UG; since one week a marketing manager took over to focus better on real market needs.
	Mr. Robert Walimbwa and Dr SS Vermaa *(Milk procurement and extension service of SAMEER)*	O: Sameer is the biggest processor of milk in Uganda; C: After privatisation in 2006 the new management of Sameer is getting back on track to collect more milk applying customer services such as medicine supply and extension services. Overcapacity still huge (70%).
	Aga Sekalala Jr. *(MD of Ugachick)*	O: Ugachick is the biggest poultry farm with integrated feed processing, hatchery and processing units; C: Professional set up of integrated production reaching up to 45% of the market; base material imported from Holland; inefficiency in hatchery still enormous; practical import ban on poultry meat.
25/4	Mr. Henry Kanyike *(Dairy Farmer)* Executive Committee Members *(Central Uganda Dairy Cooperative)*	O: Mr. Kanyike is a successful dairy farmer, with benefit of several years experience in the dairy sector and working with Dairy Cooperative; C: Small scale dairy cattle breeder producing high value breed stock; CUDC board did not look very professional, but more addicted to "donation industry", producing fantastic plans for high investments in dairy collection centers and compound feed plant.
	Mukwano Industries – Vegetable oil producer, potential animal feed supplier *Mr. Tony Gadhoke CEO*	C: impressive company and entrepreneur, recommended for investment partnership; fast moving consumer goods (soap (1986), cooking oil, water, sugar, flour, etc.); crushing UG grown sunflower oilseeds; seriously interested to utilize sunflower cake in a new feed plant.
26/4	Stefan Duyck *(CEO Fresh Cuts & Quality Cuts)*	O: Strengthen understanding of the beef processing and marketing; C: Excellent entrepreneur with deep understanding of the market; recommended for investment partnership;
	Mr. J. Kamugisha-Ruhombe - Beef Farmer (also Forest Finance Programme Coordinator at NGO)	O: Insight into professional beef breeding by big individual part time farmers; C: Commercial breeder (200 head) of seed stock (Boran), imported from Kenya; involved in set up of national beef breeding organisation of 50 members max.; biggest cost: ticks, drugs/vaccines, diesel for pumps, fencing, labour
	Dr. Babigumira Brian M. – National Animal Genetic Resource Centre and Data Bank	O: Understanding of government National Livestock Program: bull stud of 30-50 bulls and 13 farms of 180km^2 with 8000 animals for preservation and for upgrade of national cattle and goat population. C: Unfortunately the execution by government people does not function: output is nowadays 15.000 doses of semen and 114 animals per year!
	Debrief with Embassy: Mr. Henny Gerner, First secretary Food security & private sector development and Mr. Charles Drazu, Senior Policy Officer Food Security	O: Objectives of Embassy study on investment opportunities in Uganda by Agriterra; C: As long as study is still in progress the visit of investor board seemed rather early. Excellent summary and analysis of findings till so far, which helped with better comprehension of the challenges.

Annex 5: Sources of Information

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Annex 6: List of Persons Met

Name	Title	Organization	Contact
Farmers			
Mrs. Christine Ndungu	Treasurer, Board of Directors	UCCCU	+256 485 421543 +256 772 344057 ucccu@utlonline.co.ug P. O. Box 1088, Mbarara Plot 47/49 Akiiki Nyabongo Rd. MBADIFA Building. 1st Floor
Dr Joseph Agaba	Dairy Extension Officer	UCCU	+256 782 777 782 +256 701 251 489 +256 485 421 543 +256 485 330 32 jo_agaba@yahoo.com jo_agaba@hotmail.com j.agaba@ucccu.org P. O. Box 1088, Mbarara Plot 47/49 Akiiki Nyabongo Rd. MBADIFA Building. 1st Floor
Mr. Clayton Arinanye	Project Manager	UCCCU	+256 782 302 684 +256 485 421 543 claytonarinanye@ucccu.or.ug P. O. Box 1088, Mbarara Plot 47/49 Akiiki Nyabongo Rd. MBADIFA Building. 1st Floor
Mr Henry Kanyike			+256 772 409 306
Mr Michael Mabati	Chairman	Rukaka Dairy Farmers	+256 774 216 914

		cooperative Society	Rubindi, Kashare, Kegunji, Mabarara
Mr. Everest Twine	Treasurer	Rukaka Dairy Farmers cooperative Society	+256 791 237 979 Rubindi, Kashare, Kegunji, Mabarara
Mrs. Peninnah Baseeta	Dairy/Poultry / Piggery Farmer	Mbarara	+256 781 414 041
Colonel Dick Bugingo	Director	AGDI Enterprises	+256 772 455 103
Dr Okoth G. Ochola	Director	Asiima Agri Concern Ltd.	+256 772 464 780 asiimaagriconcern@yahoo.com Shoppers Stop Plaza Shop AG12, Behind Shoprite P. O. Box 70695, Kampala, Uganda
Dr Harunah Kaaya	Managing Director	K & H Farms	+256 772 688 576 +256 702 688 576 +256 754 688 576 kayah@agricmak.ac.ug Plot 683, Nasuti, Mukono, Kayunga Road P. O. Box 586, Mukono, Uganda
Mr. Gabriel Komakech			+256 772 120 977
Dr Scicola Bwaali	Director	Angela Farm	+256 scola.6@yahoo.com
Processors			
Mr. Barnard Tibesigwa	Manager	MADDO Dairies Ltd	+256 772 470 153 +256 702 863095 tibesigwabarnard@gmail.com

			maddo@africaonline.co.ug P. O. Box 14, Masaka
Mr Sanjay Kumar	Production Manager	Hillside Dairy & Agriculture Ltd	+ 256 392 711 943 +256 702 220 105 +256 434 121 +256 434 946/7/8 customercare@hillsidedairy.co.ug www.hillsidedairy.co.ug
Mr. Ravinder Singh	Finance Manager	Hillside Dairy & Agriculture Ltd	+ 256 392 711 943 +256 702 220 105 +256 752 740 031 +256 759 722 155 Ravinder68@yahoo.com
Mr. George Kiberu	Manger	Paramount Dairies Ltd	+256 772 445 084 pd@kakoba2@gmail.com Plot 83, Ruhara Road, Mbarara, Uganda
Mr. Stephan Duyck	Managing Director	Fresh Cuts	+256 414 510 465 +256 414 200 198 +256 312 200 655 stephan@qualitycuts.net www.freshcuts.biz P. O. Box 12721, Kampala
Small Scale Processors/Cottage Industries			
Mr. David Suubi Sebadduka	Managing Director	Family Choice	+256 772 589 275 +256 702 589 275

			sebadduka@yahoo.com P.O. Box 1309, Mbarara, Uganda
Mr. Francis Rukara	Director	Jibu Investments Ltd	+256 772 982 843 rgasana@yahoo.com Kageti Trading Center 52 Km Mbarara-Kampala Rd
Mr Sulaiman Salim			+256 774 616 624
Regulators			
Dr Nicholas Kauta	Acting Director Animal Resources/Commissioner Animal Health & Entomology	Ministry of Agriculture, Animal Industry & Fisheries	+256 772 693 257
DR Jolly K. Ziribwende	Executive Director	Dairy Development Authority	+256 704 094 120 +256 414 343 883 ed@dda.or.ug www.dda.or.ug Plot 1, Kafu Road, Kampala P. O. Box 34006, Kampala, Uganda
Dr Robert M. Wangoola	Dairy Development Manger	Dairy Development Authority	+256 702 510 109 +256 752 510 108 +256 772 510 108 +256 414 343 883 rwangoola@yahoo.com www.dda.or.ug Plot 1, Kafu Road, Kampala, Uganda P. O. Box 34006, Kampala, Uganda.
Mrs. Agnes Baguma	Regulatory Services Manager	Dairy Development Authority	+256 772 448 776

Development Partner Agencies			
Mr. Clive Drew	Agribusiness Director	aBi Trust	+256 775 426 300 +256 312 351 600 clive.drew@abitrust.com www.abitrust.com Nakasero Towers, 4th Floor Plot 37, Nakasero Road P. O. Box 29851, Kampala, Uganda
Mr. Patrick Seruyange	Operations Officer Rural Development	European Union	+256 414 701 012 (direct) +256 414 701 000 patrick.seruyange@ec.europa.eu www.deluga.ec.europa.eu Crested Towers Building, 15th Floor Plot 17-23, Hannington Road P. O. Box 5244, Kampala, Uganda
Mr. Henny Gerner	First Secretary/ Food Security & Private Sector Development	Embassy of the Kingdom of the Netherlands	+256 752 808 790 +256 777 808 790 +256 414 346 000 henny.gerner@minbuza.nl Rwenzori Courts 4th Floor Plot 2, Nakasero Road, Kampala P. O. Box 7728, Kampala, Uganda
Eng. Charles Drazu	Senior Policy Officer/Food Security	Embassy of the Kingdom of the Netherlands/Development Cooperation	+ 256 772 949 479 +256 414 346 000 +256 414 346 215 charles.drazu@minbuza.nl

			Rwenzori Courts 4th Floor Plot 2, Nakasero Road, Kampala P. O. Box 7728, Kampala, Uganda
Mr. Ivan Tumuhimbise	Advisor Agricultur/Impact Investment	SNV Netherlands Development Organisation	+256 754 563 209 +256 414 563 200 itumuhimbise@snvworld.org www.snvworld.org Plot 36, Luthuli Rise, Bugolobi, Kampala P. O. Box 8339, Kampala, Uganda
MS Marieke van Schie	Country Coordinator Uganda	Agri Pro Focus	+256 754 563 229 +256 392 200 778 mvanschie@snvworld.org http:apf-uganda.ning.com Plot 36, Luthuli Rise, Bugolobi, Kampala P. O. Box 8339, Kampala, Uganda
Mr Anton Jansen	Senior Agri Business Advisor	SNV Netherlands Development Organisation Kenya	+254 733 608 065 +254 719 343 308 +256 202 405 955 +254 202 450 983 +254 202 633 426 ajansen@snvworld.org www.snvworld.org Chalbi Drive, Off Isaac Gathanju Road, Lavington, Nairobi P. O. Box 30776-00100, Nairobi, Kenya

Non Governmental Organizations			
Mr. William Matovu	Country Project Manager	East Africa Dairy Development Project (EADD)	+256 782 477 325 +256 414 231 828 william.matovu@eadairyuganda.org william.matovu@heifer.org www.eadairy.org www.heifer.org Plot 14, Lourdel Road, Nakasero P. O. Box 28491, Kampala, Uganda