

ASSESSMENT OF THE BEEF CHAINS IN MASVINGO, ZIMBABWE TO IMPROVE SMALL HOLDER BEEF FARMERS' EQUITY

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By

MARTHA NIKAYI ZVAREVASHE

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ACRONYMS AND ABBREVIATIONS

A1	The old resettlement areas in Zimbabwe
A2	Small scale commercial farms
BCMAFF	British Columbia Ministry of Agriculture, Food and Fisheries
CSC	Cold Storage Company
COMESA	The Common Market for Eastern and Southern Africa
EU	European Union
FAO	Food and Agriculture Organisation
FMD	Foot and Mouth Disease
GTZ	The Deutsche Gesellschaft für Technische Zusammenarbeit (German Society Technical Cooperation)
SADC	Southern African Development Community
SPSS	Statistical Package for Social Sciences
ZFU	Zimbabwe Farmers' Union

Abstract

The beef sub sector in Zimbabwe is considered to be declining its operations due to some economic and political situation in the country. This study assessed the whole beef chain to establish why the small holder farmers who supply the highest number of cattle (73%) for slaughter have low profit margins. To determine the real situation on ground, a survey in three districts in Masvingo province was conducted to check on the farmers' herd size, location of farmers, income of selling the cattle, bargaining power, marketing systems, problems encountered in the chain as well as the sustainability of the beef value chain.

The activities of actors, supporters and influencers of the beef chain were obtained through interviews with these stakeholders. This was done to assess the margins, challenges and opportunities in the beef industry in order to improve the small holder farmers' margins, power relations and coordination among the chain actors and ultimately sustainability of the beef chain. Power relationships were analysed throughout the chain actors.

The data for the study was obtained from both secondary and primary sources. The provincial Livestock Production and Veterinary services department supplied information on the cattle population, extension services, inspection and grading of beef. The study assessed the stakeholders of the whole beef chain in Masvingo province. During the field research 30 small holder beef farmers were interviewed using a structured questionnaire. The farmers were drawn from three districts which market most of their cattle to Masvingo city. These were 10 from Bikita district: 10 from Masvingo peri urban and the other 10 from Mwenzezi district. Gender balance was considered in the survey. Two well established abattoirs were visited and interviews were carried out with the managers on sources of the slaughtered cattle, prices offered, their customers, challenges in slaughter houses and the sustainability of the beef industry. Formal interviews were also done with three prominent supermarkets managers in Masvingo city, five butcheries, two Livestock and Veterinary officers, one Veterinary doctor and several consumers. The results of the study reveal that there are two beef chains operating in the province and farmers have shown that the challenges faced in both chains are mainly low quality of beef cattle supplied on the market which results to reduced prices offered by buyers. With the current beef cattle breeds and mindset in marketing cattle, small holder farmers remain with low margins than the other players in the chain.

Based on these findings, the study concludes that poor cattle which are marketed by smallholder farmers result to low quality beef that fetches low prices on the market. Again farmers' mindsets have not changed to entrepreneurship that they still attach social values on cattle that they prolong the time of selling them. As a result they get low profits after marketing the cattle in these poor conditions.

After drawing the conclusions, the study recommends that farmers should have a business mindset where they aim at profit making. To improve the beef quality which ultimately increases profits, farmers need to increase production by feeding the cattle with home grown and made feeds. Through coordination with various stakeholders, farmers should source improved beef breeds from beef cattle breeders to improve quality of beef resulting to higher profit margins. This is essential to sustain the beef chain and improve the distribution of profit shares along the chain.

Chapter 1: Introduction

1.0 Background

Cattle rearing are one of the major activities in Zimbabwe. The country produces 103,900 tonnes of beef and 388,500 tonnes of raw milk (World Bank, 2011). There are systems ranging from extensive systems (ranching), which require large areas of land, to intensive systems, which require relatively smaller areas of land. Generally, extensive systems are practised in Communal areas where smallholder beef cattle farmers are dominant (Mavedzenge, 2008) and covers 75% of the surface area. Livestock has a crucial role in the Zimbabwean society by providing food security, income, draft power, manure and other by-products, saving, social and cultural relations, self-esteem, wealth (Campbell et al.2000) and the country obtain foreign currency earnings from exports (World Bank report, 2011). The cattle is clearly distinguished into beef and dairy for commercial sector while the small scale sector which has more cattle than the commercial sector does not specify the economic purpose of the cattle which have several uses at household level.

Zimbabwe has a tropical climate which is moderated by the altitude and a rainy season which runs from November to March. This climate is conducive for beef production in the country. Natural grazing is the primary source of feed for beef animals, but cereal crop residues and planted pastures may assume this role for short periods in medium and high rainfall areas (Natural regions I and II)) (Vincent and Thomas 1960). Zimbabwe is divided into five main agro ecological regions according to differences in effective rainfall (Surveyor General, 2001). Beef breeding is mostly in regions I, II while ranching is in regions IV and partly V is mainly for wildlife.

The Zimbabwean beef industry has been declining for the last decade as depicted by the cattle population trend shown in the table 1 below.

Table 1: Zimbabwe Cattle population in commercial and communal sectors.

Year	2000	2004	2008
Cattle	6 186 312	5 226 519	5 106 673

Source: FAO (2012)

Major changes have occurred in the livestock sector in Zimbabwe in the last few years. The breeding of beef breeds was drastically affected by the land reform where these commercial breeding farms were allocated to some black Zimbabweans with little or no background of cattle breeding. These farms are now used for crop farming for food security reasons instead of breeding cattle. This resulted to the local Mashona and crossed breeds to dominate the beef industry. The maturity weight of these local breeds is far below that of the pedigree breeds affecting the quality and off take of the beef cattle in the country (Livestock

department, 2012). Areas for grazing declined owing to expanding human settlements and other activities such as cropping. Destocking of cattle in the commercial sector has also contributed to the decrease of the beef cattle population due to recurring droughts (Cousins and Scoones, 2009).

The land reform implemented from 2000 onwards, combined with major changes in the macro-economy, has resulted in significant shifts in ownership, use and management of livestock, with implications for disease management, marketing and production. Livestock market development has long been geared towards a commercialised, export-oriented industry with a strict regime in place to minimise Foot and Mouth Disease (FMD) and safeguard exports to the European Union (EU) (e.g. fencing, zonation, vaccination and movement controls).

The beef value chain is a good example (Mavedzenge et al 2008) affected by the land invasions and subsequent reform programme beginning in 2000 (Hammar et al., 2003). In the past there was a reliance on a few suppliers from the large-scale ranchers, going through a few abattoirs or the Cold Storage Company (CSC). The abattoirs were running as parastatal and were recently commercialised. The land reform coincided with a major collapse in the formal economy, with spiralling inflation and sequential massive devaluations of the currency, created a huge parallel, second economy (Moyo and Yeros, 2005.). Today a huge range of sources supply meat and many new players are involved, from producers, traders, slaughter houses, processors up to retailers. This indicates that there are big markets for beef in Zimbabwe.

The collapse of the export market due to foot-and-mouth outbreaks and political issues has led to a focus on local sales and market connections. There have been significant supply constraints, as new farmers build up their herds and avoid selling (Mlambo, 1996). Beef is no longer sold through in-town supermarkets only, but through small butcheries and outlets in the rural areas and townships. Beef is now coming from different producers and the majority of it comes from smallholder farmers (Mavedzenge, 2008). The livestock sector in Zimbabwe is undergoing cyclical phases as it tries to cope with both internal and external economic pressures. The fast track land reform programme, which was marred by hyper inflationary environment and food shortages from year 2000, led to emergence of new beef market players and disappearance of formal market channels. While the remnants of the former commercial ranching system operate through lease grazing and barter arrangements in a number of places especially in Mwenezi area, these are now relatively limited and under threat due to limited grazing area and stock thefts. Some commercial farmers in the district started on a programme of using artificial insemination to nearby cattle farmers' heifers to improve the beef herd and breeds (The Zimbabwe Herald, 2012). The new semi commercial resettlement farmers (designated A2) are starting to establish beef herds, but on relatively small holdings averaging 250 hectares (Government of Zimbabwe report, 2009), and with limited capital and business financing, this is not proving easy. The exotic beef breeds are now limited but they are improving on the local breeds and some crosses from the small holder black farmers.

1.1 Justification

Over 80% of the Zimbabwe population consume beef followed by poultry then other type of meats like pork, goat and mutton (FAO, 2012). However, the consumption rate is mainly determined by the income of consumers especially in most developing countries like Zimbabwe. Masvingo is one of the regions in Zimbabwe found in the southern part of the country where ranching is the most predominant activity among farmers due to the prevailing climatic conditions. The small scale producer contributes the majority of beef consumed in Masvingo town which is 95 % of the beef intake from different smallholder cattle farmers from the region (Scoones, 2008). Large-scale commercial ranches now make up only 7 per cent of the total land area in the province, with a total of 1.2 million hectares having been transferred to around 20,000 households in the new resettlements (Veterinary services report, 2011). The Economic Structural Adjustment Programme (ESAP) of 1995-2000 saw the privatization of major state owned enterprises and a more liberalized economy. This saw the Cold Storage Company which was the major beef processor privatized and many more beef processors emerged throughout the country competing with it. Trade agreements allow free trade in the SADC and COMESA blocks and therefore threaten the viability of the beef sector/industry in Zimbabwe. Information on the challenges that the local beef industry is facing is therefore needed if the government is to protect the Zimbabwean beef industry in the face of competition from cheap imports beef industry by preventing cheap imports, but still meeting consumer needs.

There are seven districts which are in the region dominated by smallholder beef farmers who supply the Masvingo city with beef (Veterinary service, 2012). These districts are Bikita, Chivi, Chiredzi, Gutu, Mwenezi, Masvingo and Zaka which are divided into A1, A2 farms and communal areas depending on size of the area. The people in these districts are mostly smallholder farmers where cattle are the most important livestock in this sector. The cattle in this sector are kept for other multiple purposes. They provide draught power, manure, transport, milk, savings, and bride wealth payments. Because of this ever increase in population and consumer demand for fresh, quality, safe beef and other beef products, smallholder farmers are selling their cattle regularly to traders but still remain poor. As all economic indicators had shrunk in 2007 according to the International Monetary Fund, the beef formal market was really affected as well that most people become involved in the beef supply chain. However, with this prevailing situation in the country and economic hardships, the margins of the smallholder farmers leaves a lot to be desired as it remains far low than the other actors in the beef chain. Farmers are exposed to different market channels that include both formal and informal channels where several factors affect the selection of each channel by the farmer. Inefficient pricing system, information asymmetry and poor infrastructure in new settlements post Zimbabwe's fast track land reform programme promoted informal cattle sector in the country. This research seeks to investigate the profit margins among the actors in the Masvingo beef value chain. The research will also investigate the challenges faced by smallholder farmers and why they continue to market their cattle even with small returns/receipts.

1.2 Research Problem

As many players are now in the beef chain in Zimbabwe due to increased local markets and less export, the small holder beef farmers are having low margins on the sale of their cattle

to traders or dealers. This is due to less bargaining power, insufficient market information about prices and low off take to markets leading to low receipts and thus poor livelihood.

A new commodity chain emerged, with around 90 percent of cattle being small-scale (communal, A1/old resettlement and A2) and the CSC becoming a minor player, but with a range of speculators, middlemen and private abattoirs appearing (Mavedzenge et al 2008).

For example, the growth of private abattoirs and local butchery slaughter, following the liberalization of meat markets after structural adjustment, had encouraged a country-wide trade in meat. There has thus been a major transition from a highly concentrated and regulated commodity chain dominated by a few players to a huge diversity of actors at all levels. This has been accompanied by a decline in state control and management of the market system, beef exportation to European markets and a growth in independent, increasingly informal, sometimes illegal, economic activity and entrepreneurialism.

1.3 Problem Owner

Small holder beef cattle farmers

1.4 Research Objective

The main thrust of the research is to assess important ways of improving beef smallholder farmers' margins, power relations and coordination among the beef chain actors and ultimately sustainability of the beef value chain.

1.5 Research Questions

1.5.1 Main research question 1

What is the current situation on beef chain in Masvingo region?

Sub- questions

- I. Who are the actors and supporters in the beef value chain?
- II. Where do the small holder farmers market their beef cattle?
- III. How frequent do small scale farmers market their beef cattle?
- IV. What are the challenges faced by smallholder beef farmers, cattle traders/dealers and beef processors in the beef chain?

1.5.2 Main research question 2

How can sustainability of the beef value chain be improved?

Sub-questions

- I. What is the average cost price of live beef cattle and selling price of beef?
- II. What are the real profit margins of the beef chain actors?
- III. How can small holder farmers become more commercialized in beef chain to improve their margins?
- IV. What is the sustainability of the beef value chain?
- V. How is the coordination among the beef chain operators?

1.6 Definition of terms

Smallholder cattle farmers: - farmers keep cattle on extensive communal system. Usually they own less than 20 heads of cattle. They farm using mainly family labour and for whom the farm provides the principal source of income (Morton, 2007). These farmers exhibit non homogenous characteristics, they produce both for subsistence and commodity, Normally majority practice mixed farming where they keep livestock and crops and can either rely on rain-fed or irrigation. Small scale farmers normally have small portions of land averaging 1-10hectares.

Bargaining power -: the ability to influence the price or terms of a business transaction. It enables farmers to negotiate better prices and make agreements on some transactions.

Market information -: access to accurate information about market prices and expectations from other actors in the chain.

Value chain -: A sequence of value addition on a product until it reaches the final consumer.

Value chain actors -: Those who directly deal with the products and own them.

Value chain supporters -: These are services provided by various actors who never directly deal with the product but add value to it.

Profitability —: It is the return to investment given by profit divided by cost price expressed as a percentage.

Value shares -: the percentage of the final, retail price that the actor earns.

Stakeholders -: people who are directly involved in the beef cattle value chain in Masvingo region. These include actors, chain supporters and chain Influencers

Equity consideration- How is the value that is added along a chain distributed among chain members?

Consumer satisfaction- whether consumers are getting the products (Beef) demanded, in terms of quantity, quality, timeliness and prices.

Sustainability: - ability of the beef chain to be maintained for a longer period considering the impact of environment, animal welfare, employees, consumers and communities. Chain sustainability is seen from the basis of people (gender equity, farmers 'co-operation for bargaining power and long term relationship), planet (environmental safety, no pollution and conservation of soil, water, nature and wildlife) then profit referred to as 3Ps. A value chain is judged by the way it operates and to what extent it meets the needs of the 3Ps.(Boomsma, 2008). This study focused on the following aspects of sustainability: profit and people as the impact of the environment was not focused due to limited study focus.

Chapter 2: Beef cattle value shares literature

The chapter outlines the tools used in the study; theories about value chain, beef production and marketing within the country and other countries that can be useful for interventions for the small holder beef farmers of Masvingo province in Zimbabwe.

2.1 The Concept of value Chain

The value chain is a sequence of production processes from the provision of specific inputs for a particular product to its primary production, transformation, marketing and distribution, and final consumption. It analyses the links and information flows within the chain and reveals the strengths and weaknesses in the process. Propagation exists in a chain because there is interdependency among a chain's components. Any action causing an impact in a particular component of the chain will have effects that propagate backwards and forwards (Carlos et al, 2007). For profitability of chain actors to be sustainable, competitiveness has to be the consequence of the combined, synergistic action of chain participants.

The value chain reveals the linkages and boundaries between national and international chains (Richtner, 2005). Value chains generally include three or more of the following actors: producers, processors, distributors, brokers, wholesalers, retailers and consumers. The value chain approach is now utilised as an important entry point for engaging small farmers, individually or collectively, in high value export markets (GTZ, 2007). Key issues on value chain include costs along the chain, importance of various actors/governance structure and where most value is added (Ruduner, 2007).

According to Gereffi (1994), Chain Coordination is a process of transmitting information, stimuli and controls to guide the movements of players, so that they are consistent with the strategic objectives of market leaders, which are usually the same as the objectives of the chain as a whole that may be established through contracts. If actors within the beef chain are well organised and coordinated, smallholder farmers will improve their equity. Early attempts to initiate coordinated marketing through local investments failed, with initiatives quickly folding after agreements with the Imperial Cold Storage Company for export of chilled and frozen meats (Mlambo, 1996). While top export grades were processed through the CSC, there were a growing number of private abattoirs who entered the market, and supplied higher grade cuts (Super and Choice) to urban consumers via supermarkets and other retailers.

Economic actors can upgrade by increasing the efficiency of internal operations, enhancing inter-firm linkages, introducing new products and changing the mix of activities conducted within the firm as explained in Kaplinsky and Morris (2001). It also states that the mapping assesses the characteristics of actors, profits, and cost structures, flows of goods, employment characteristics and the domestic and foreign sales

2.1.1 Major Participants/Stakeholders in the cattle industry

Stakeholders can be categorised in three categories as chain actors, chain supporters and chain influencers. Chain actors are those involved in producing, processing, trading and consuming a particular agricultural product and own the product at one level of the chain

(beef cattle) while chain supporters(veterinary department) provide services but do not take risks. Chain influencers influence the business environment (government policies).

According to (Vermeulen et al, 2008) in the project of recovering markets, a multi stakeholder process is recommended because in today's complex and highly interconnected world, innovation and change require different stakeholders to work together. Collaboration is required among policy-makers, researchers and practitioners across different industry sectors; and among government, business and civil society actors.

The multi stakeholder process is a step by step method involving several steps from mapping out the chain to developing strategies for supporting change.

Kaplinsky and Morris (2001) added that value chain exists when all stakeholders in the chain operate in the way to maximise the generation of value along the chain. Adding activities like grading, sorting and storage can create value for producers in the supply chain.

2.2 Off take of cattle

Off take of cattle from the smallholder sector is generally low (less than 7%) according to Gambiza and Nyama (2000). Farmers tend to sell old (9-10 years) and unproductive animals. The low off take is attributed to a number of factors. First cattle are kept for multiple purposes. There is insufficient capital to increase the off take. Lastly, recurrent disease and poor market infrastructure has hampered the growth of the smallholder beef cattle sector. Prior to land reform programme, numerous incentives through a series of 'Beef Control Acts' were offered which subsidised white producers, taxed African cattle producers and restricted the access to local markets for African cattle through strict quarantine measures eluded by Samasuwo (2003). For small holder farmers to increase the off take, they must become more commercialised and become progressive livestock farmers rather than livestock keepers as reported in the National livestock policy document (October 2004: 14-15). Again there is enormous potential to increase value added processing of livestock products much of which can be exported within the region or to more lucrative markets of the world. New non traditional markets must be exploited. Furthermore, farmers have small herds (4-5 head per household). About 40% of households in the smallholder sector have no cattle and depend on cattle owners for draught power. Farmers therefore aim at purchasing and building herds leading to reduced off take. The grazing locations of these beef cattle vary with the seasons and about the relation of grazing to the agricultural activities of the community, an idealised grazing schedule is often presented. The pattern is roughly as follows: November to April cattle grazes around the homesteads and locally because this is the season when there are rains and grass is plentiful (Madzudzo and Hawkes, 1996). It is also the season when crops are being grown sometimes using the cattle for draught power. Cattle are full herded to protect crop fields.

From May onwards, cattle are turned into the fields after the harvest to eat the crop residue. The rains will have stopped but there will be enough water for livestock in local pans. Also, the water table in the dried up rivers and streams will be high enough that digging will reach it. The herd size of the small beef cattle sector is not increasing substantially.

Numbers and productivity fluctuate with annual rainfall for a particular area leading to boom and bust production cycles (Campbell et al, 2000). Cattle increase during years with above average rainfall whereas numbers decline dramatically in drought years. In Zimbabwe, the production of beef has declined substantially and this has contributed to a shortage in supply and higher prices (VanRooyen, 2006). Fast track land reform has caused a reduction of the

commercial cattle herd by 75% from 1996 to 2004, while recurrent droughts contributed to further losses of cattle in the small-scale farming sector. Animals are neither fed protein supplements during the dry season nor dosed and vaccinated against diseases. These problems are also due economic hardships encountered by smallholder farmers. The other contributing factor to low volumes of livestock to the market is herbage production which is highly variable spatially and temporally because of the prolonged dry season. The major factors influencing it are annual rainfall which ranges from as little as 400mm to 1200mm per annum, shading by woody plants and soil type reported in the Government of Zimbabwe (1984) journal. Due to reduced cattle take off, beef prices are seasonal and increase during festive season. The average prices of US\$5, 50 per kg to as high as US\$12 per kg for fillet are a general trend experienced in the festive seasons (Zimbabwe Herald on line, 31-01-2012).

2.3 Bargaining power

Producer organisations strengthen smallholder's positions in markets, strengthen bargaining power, reduce transaction costs and raise the voice of smallholders in the policy process (World Development Report, 2008).

The majority of the world's poor are small scale rural producers who have limited influence if any, in bargaining processes. Producer Organisations help members to have a better bargaining position with the private sector, governments (World Bank, 2001). With a larger array of players in the market, running on smaller turnovers and lower margins, the risks for any player is greater. No longer is there an availability of large tracts of land for fattening up cheap animals bought from the communal areas (Mavedzenge et al, 2008).

Likewise coordination in the chain may be established through contracts, which determine how product flows and regulated in terms of prices, quality, and quantity and delivery specifications, among other aspects (Silva and Filho, 2007).

2.4 Sustainability

According to Haeni et al (2003), sustainability adopts productive, competitive and efficient production practices, while protecting and improving the natural environment and the global ecosystem, as well as the socio economic conditions of local communities. The indicators in value chain analysis include the commitment of the primary actors, business growth potential for all actors as well as a structured and coordinated support (Boomsma,2008).In the beef chain it entails all actors from beef cattle producers ,traders, slaughter houses and retailers to work in unison in order to sustain the industry. Linkages between the different stakeholders and power relationships are very essential in distribution of resources and products (Kaplinsky and Morris, 2001).

2.5 Power relations

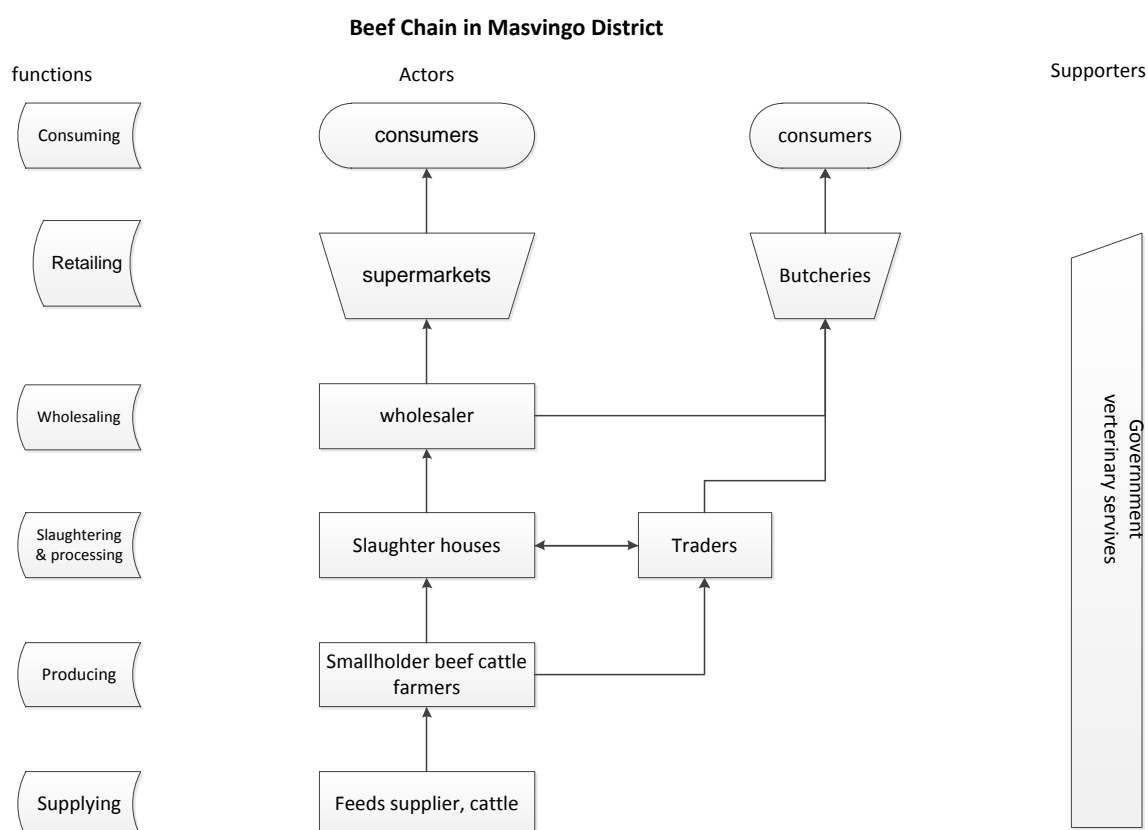
Kaplinsky and Morris, 2001 defined power as related to the level of concentration and access to key assets in the hands of a limited number of actors. These include physical and intangible resources such as market information, knowledge, personal relationships and reputation. In the beef chain this includes the cattle and land as physical resources.

2.6 Beef Value Chain Frame Work

The frame work that was used to study the beef value chain is shown in Figure 2.1. It assesses the shares / margins on each stage of the chain. Information flow especially on marketing of beef cattle, volume of products and actors are also revealed. Strategies to improve the value shares of cattle producers were analysed using various concepts like

value chain analysis, stakeholder analysis, coordination mechanism and simplified gross margins%. Finally, conclusions were made based on the results of the analysis and recommendations that would help strategies to improve the value shares of smallholder beef cattle farmers in Masvingo region thus developing the beef sub sector from a value chain approach.

Figure 1 The chain map framework



Source: Value Chain Analysis Module (2011)

2.7 Cattle marketing in other nearby countries

Musemwa, et. al (2007) has indicated that in Kamastone Village, Eastern Cape Province in South Africa there are different beef cattle marketing channels for smallholder farmers for some use the formal ways while the majority use the informal one. However, it was then concluded that development of an efficient and sustainable livestock marketing system for the small-scale farmers was one of the main strategies that would improve small scale farmers' access to formal markets. An improved livestock marketing system is likely to increase participation of small scale farmers in commercial agriculture that would mean higher income for them. Reducing the number of stages in the marketing channels by encouraging direct selling from producers to processors can improve marketing efficiency. Sometimes, this is not possible due to the location of producers relative to markets and the prevalence of small-sized farms, resulting to small volume of sales. Establishing livestock markets near production areas, to increase degree of competition could be feasible.

The Republic of South Africa department of agriculture, forestry and fisheries (2011) has reported that the amount of beef produced depends on the infrastructure such as feedlots

and abattoirs, not necessarily by the number of cattle available in those areas as in Zimbabwe. South Africa has highly developed transport infrastructure that allows movement of cattle and calves from one area to another, even from other countries such as Namibia. For these reasons, Mpumalanga has the greatest share of beef production in South Africa accounting for 22% of the beef produced in 2010 followed by Free State, Gauteng and North West accounting for 19%, 13% and 12% respectively.

Zambia, according to the World Bank report (2011) has comparatively small cattle population. The country has approximately 3 million head of cattle with only 0.14 head of cattle per hectare of land suitable for grazing. In comparison, Zimbabwe has three times as many head of cattle per hectare of grazing land and Kenya more than four times as many. Beef consumption per capita is lower than elsewhere in sub-Saharan Africa and in the developing world at large and most cattle (80%) are kept traditionally by small holder cattle farmers. These farmers are much less productive than commercial farmers and are influenced by social and cultural factors (e.g. a tendency to view cattle as a store of wealth, a means of subsistence and of mechanical power rather than a means of generating income), as well as a lack of information and access to commercial markets.

According to Ayele et al (2003), the livestock marketing structure in the pastoralist areas in Ethiopia follows four tiers which are bush, primary, secondary and terminal markets. The classification depends mainly on the number of animals supplied and market participants per market day. Bush markets are where animals are exchanged weekly between the pastoralists and small scale traders for breeding purpose or sell in the primary markets. On the other hand, primary markets are district town markets where the cattle sales do not exceed 500 animals per week. Those involved in this cattle trade are pastoralists and small scale traders, whereas the major buyers are assemblers (agents) and medium scale traders. Secondary markets are exercised in major towns where the weekly supply volume is between 501 and 1000 animals. The participants in this type of tier are medium scale traders acting as sellers and the big traders as buyers. The last category of these are the tertiary/terminal markets which are located at the big cities of the country where on weekly basis over 1000 animals are supplied. Big traders are major sellers whereas butchers and consumers are the major buyers. Livestock are generally traded by visual judgement and weighing livestock is rare though auctions used practice it. Prices are usually fixed by individual bargaining. Prices depend mainly on supply and demand, which is heavily influenced by the season of the year and the occurrence of religious and cultural festivals.

2.8 Improvement of farmers' margins

Quality assurance is important for the food industry especially perishables like beef for safety reasons (Luning and Marcelis, 2009). When high quality of a product is supplied, high premiums will also be received thus improving the profit margins of the supplier in the chain. With farm gate sales, the producer can adjust prices according to local demand and supply. With auction sales as in beef marketing, the producer has less control over the selling price. Providing a consistent and high quality product and ensuring your customer needs are met are vital elements in obtaining a sound price return. There are market risks so ensure that the animals raised have a high demand and be aware of new or existing producers that may impact the market (BCMAFF, 2002). Strategies in spreading risks, reducing production costs and value addition should be implemented to improve margins. Farmers should consider different channels of marketing finished livestock for them to realise profits.

Chapter 3: Methodology

3.1 Study Area

The research was carried out in Masvingo region focussing on urban and peri-urban and surrounding districts which are in this region, mainly Mwenezi and Bikita. The chosen districts have all the sectors of small scale farmers from communal, resettlement (A1) and small scale (A2) farms. Both formal, organised public cattle auctions and informal markets are exercised in these areas. It shows that cattle's marketing is constantly practised in the chosen districts. The region is in the southern part of the country. It has a population of 265 000 (UN estimate). Beef cattle population in the province is 993213 head as reported in the June, 2012 veterinary report which is more than the average per district.

The research was carried in three districts where smallholder farmers produce and market the greater percentage thus 75% of beef for local and the urban consumers (Masvingo veterinary report, 2012). Slaughter houses, butcheries and supermarkets are located in the urban so again the research was done in the Masvingo urban city to assess the margins among actors. Because of the increased demand of fresh beef, the smallholder farmers continually supply cattle to the urban area through various channels.

3.2 The Research design and strategies

The research design and strategies have been developed to guide the research process through the different steps necessary for the successful completion of the research (Verschuren and Doorewaard, 2005). Data collection was done using Desk study, survey, interviews and documents from district veterinary department. The livestock specialist (beef cattle) for the district and the veterinary officer assisted in the selection of farmers that were interviewed. Farmers were selected based on the number of cattle owned and the frequency of cattle selling, with a bias towards those farmers who owned relatively higher numbers of cattle and who regularly sold their cattle.

3.3 Desk study

The desk study was done prior to the field work and afterwards to gather information on key issues and concepts essential for the study. It was used to obtain detailed information on beef value chains, margins, and smallholder beef cattle farmers, actors in the chain, stakeholders, chain linkages and coordination mechanisms from existing literature. The sources of information were text books, PhD theses, scientific journals and publications. Documents from National, Provincial and District livestock offices as well as internet were also used.

3.3.1 Beef Cattle Marketing in Zimbabwe

Zimbabwe's 12.1 million hectares support 5.4 million of cattle on both commercial and communal farms. Beef cattle marketing in Zimbabwe, according to Scoones (2008), are characterized by the existence of many players in the distribution network which is to the disadvantage of small holder beef cattle producers who receive relatively low price for their animals and consumers who pay high price for meat products. In Masvingo region which is well known for cattle ranching, middlemen or livestock traders buy live cattle from the farmers and sell them either to auction markets, to butcher-retailers or to feedlot operators.

They usually have bigger margins because cattle are bought from the farmers at a much lower price. These middlemen have good market information (Rodrigo, 2007). Most organised markets are no longer in existence from the time when Cold Storage Company which was the sole beef cattle buyer collapsed. The auction markets are now operational in two districts in the region thus Mwenezi and Bikita districts (Livestock and production department, 2012). Because of competition among actors, most slaughter house and butchery operators are buying the live cattle directly from farmers on their own for further processing trying to do away with the middlemen. Farmers in these districts are now bringing cattle to auction markets for fair prices than selling to directly to middlemen.

Although a report from KIT and IIRR (2008) discloses that before 2006, the farmers in Mbire District, Zimbabwe sold cattle directly to the traders with distrust, they later bypassed them by selling directly to the abattoirs. After experiencing problems, they reverted to using traders again, but with more transparency and a greater sense of partnership within the chain. Considering the benefits derived from formal markets, a study conducted by Musemwa, et. al (2007) in Kamastone Village, Eastern Cape Province on marketing channels for smallholder farmers, concluded that development of an efficient and sustainable livestock marketing system for the small-scale farmers was one of the main strategies that would improve small scale farmers' access to formal markets. An improved livestock marketing system is likely to increase participation of small scale farmers in commercial agriculture that would mean higher income for them.

Marketing efficiency can be improved by reducing the number of stages in the marketing channels by encouraging direct selling from producers to processors. Sometimes, this is not possible due to the location of producers relative to markets and the prevalence of small-sized farms, resulting to small volume of sales. Frequency of marketing also depends on the individual farmers.

3.3.2 The external environment on the development of the beef industry in Zimbabwe

The prevailing environmental factors do not directly influence decisions for the beef cattle industry but influence the operation of the chain indirectly. Political Environmental Social and Technological (PEST) analysis tool is used to describe the general environment in Zimbabwe and its impact on beef development.

Political

After the recent land reform, many farmers are reluctant to invest and expand their farming business since they are not guaranteed ownership of the farm. Both the beef quantity as well as quality has significantly declined as the small holder farmers have insufficient resources and have no collateral to acquire money from banks to boost the industry which was formerly dominated by the white commercial farmers. These experienced farmers were replaced by inexperienced farmers during land reform. Coupled with drought, the beef industry is no longer lucrative and most able bodied people have migrated to cities to look for a job or join the informal sector.

Population growth in urban areas has boomed because of rural migration due to economic instability which has resulted in informal beef trading in big cities. The low income group from the high density suburbs are the customers for the beef sold in these illegal markets.

Presently, the beef price is determined by market forces of supply and demand. Farmer sell their beef to the processors and traders who offer better prices and better terms like paying

for transport. Because there are no more beef exports to the EU, most beef is consumed locally resulting in low premiums offered.

Economic

Most companies especially the Cold Storage Company which was the monopoly of the beef industry has collapsed due to high taxation and finds it difficult to bring in new equipment or buy spares because of tariffs. The macroeconomic uncertainties like fluctuations in exchange rates; high debt service cost; high cost of inputs and high inflation also affects input prices on agricultural products.

Trade liberalization has caused new entrants into the beef chain creating more informal markets. Some butchers are selling uninspected meat illegally. Others though they buy the inspected one, they buy the cheaper grades which are the 'commercial' and 'economy' for they can sell quickly than the 'super' grades. Unemployment for Zimbabwe is over 80% that the average monthly basket is \$467, 62 and 90% of the population live below the poverty line (Government of Zimbabwe Gazette, July 2012).

Low incomes constraints limit overall consumption inspected, high quality beef products and influence the amount of beef obtained from the formal and informal markets.

Social

Low income groups demand for cheaper meat whether formally obtained or not they do not mind as long they have some relish to take with their staple food.

Technological

Processing and forage equipment are expensive and not affordable for the new farmers, also scale of production does not need the big machines which are available on the market. Because of the constant electricity power cuts, refrigeration of beef products is now a problem.

3.4 Field Research

3.4.1 Survey

The structured questionnaire was designed to collect information on prices of beef cattle, relationships with other stakeholders, power relations, dissemination of market information, problems in marketing cattle, sustainability of the beef industry and commercialisation in the chain. 30 smallholder beef cattle farmers from three different targeted areas thus 10 from each area responded to the questionnaire to generate a wider scope of information on beef production and marketing will be given to these recipients.

3.4.2 Case study

Two regular beef cattle dealers/traders were interviewed. The managers of five selected butcheries and three prominent supermarkets were interviewed as well in order to acquire information on value addition and margins. Two slaughter houses managers were also interviewed to address issues on sources of cattle, their customers, cost and selling prices of beef as well as sustainability of the beef chain. Challenges faced in chain were also discussed as well. Check list is prepared for different interviews.

3.4 Data Analysis

The collected quantitative data from the field survey was coded and processed using statistical package for social sciences (SPSS) and Excel. Descriptive data was used to analyse responses especially from interviews. Cross tabulation was used to compare chains

with other countries within data set. Value chain analysis, stakeholder analysis as well as marketing mix forces were used for analysing data as well.

3.5 Limitations of the study

The study was carried out between July and August that only two auctions were attended to get the real situation on the marketing of beef cattle. The dates were scheduled at the beginning of each month so it was impossible to visit all districts' auction markets to have a trend of cattle sales. Some small holder farmers interviewed were reluctant to reveal their income per sale of cattle for they were no records kept so average figures were used to calculate their incomes.

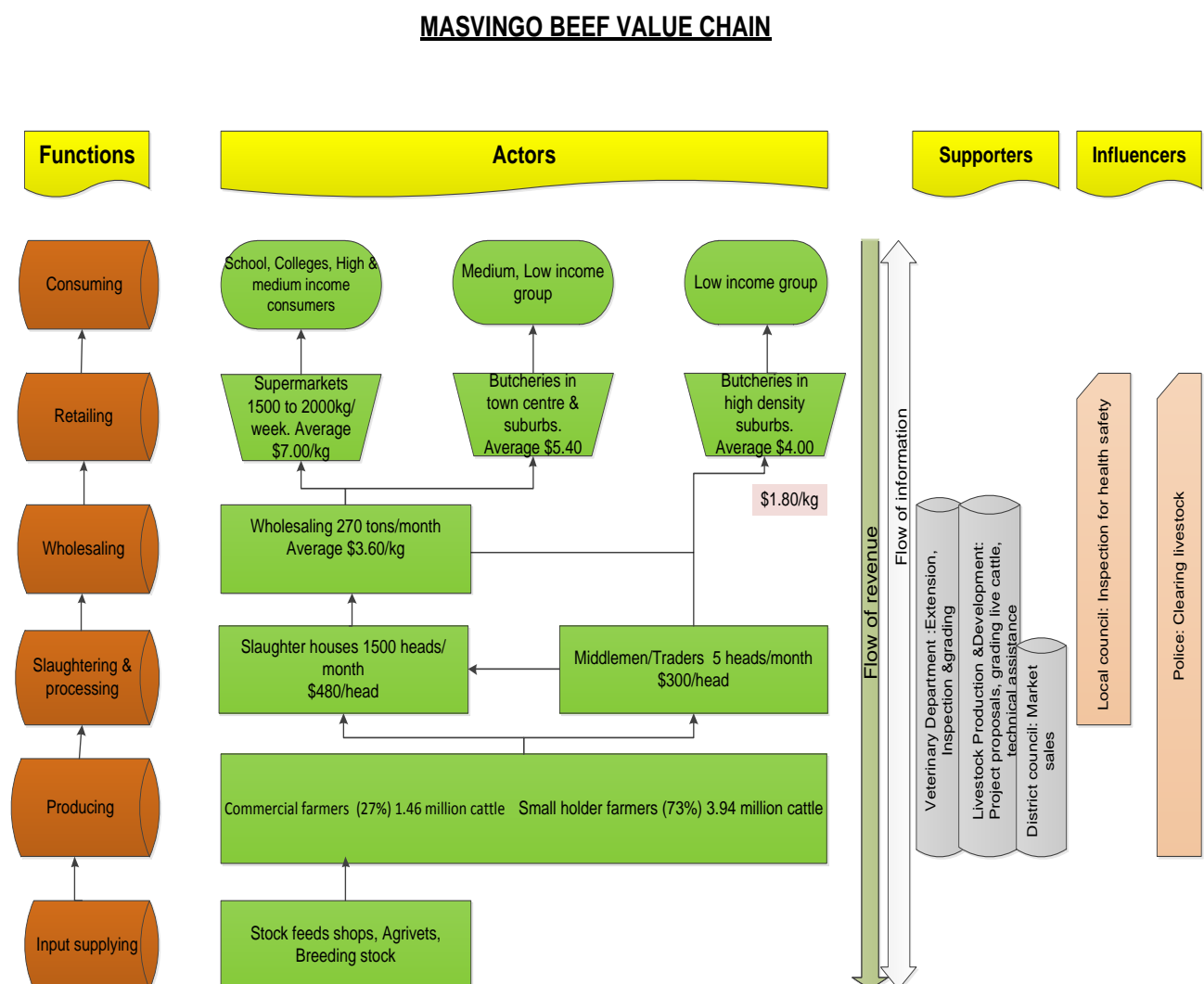
Some statistical tests were not performed because the sample size was small due to the limited time for data collection

Chapter 4: Findings on the sustainability of the beef value chain

The chapter presents findings of the study from both the desk and field analysed data. The results are presented in three broad themes: the current beef chain and how the chain can be improved in Masvingo region, Zimbabwe, Profit margins, problems in the chain and coordination in the chain. Actors and supporters of the beef value chain, places of marketing the beef cattle, frequency of marketing and challenges faced by the chain participants were realised as well. On sustainability, the chapter also describes the average cost price and profit margins of beef on all stages in the chain as well as people involved in the chain. Real profit margins were calculated and ways of sustaining the beef industry in the country as a whole are highlighted.

4.1 Current situation on beef chain in Masvingo Province

Figure 2: Chain Map



Source: Beef value chain in Masvingo (Zimbabwe) case study (2012)

From the study carried out, slaughter houses play several functions in the chain. They buy cattle from farmers, finish them at times, slaughter, process and wholesale the beef to retailers. There are other abattoirs around town which obtain cattle from middlemen.

4.1.1 The activities of the beef value chain actors and supporters

Results on the activities of actors and supporters in the chain were obtained through observations and the interviews made during the survey as well from desk study on chain operators. The stakeholder analysis table summarises the activities.

Table 2: Stakeholder Analysis in the Masvingo beef chain.

Stakeholder	Functions
Cattle Farmers (A1, A2, Communal)	<ul style="list-style-type: none"> - Few buy heifers and steers for restocking at public cattle markets and from other farms. - Sell cattle for slaughter auction markets or at farm gates.
Private slaughter houses/Abattoirs	<ul style="list-style-type: none"> - Buy cattle for slaughter and process into specific cuts. - Wholesaling to butcheries and supermarkets. - Buy cattle for finishing them in their feedlots. - Some provide inputs to contract farmers.
Middlemen/Traders	<ul style="list-style-type: none"> - Buy cattle directly from smallholder farmers. - Market the cattle to slaughter houses - Exchange female animals for males with farmers then sell the males ones.
Supermarkets and butcheries	<ul style="list-style-type: none"> - Buy beef cuts from slaughter houses for value addition into different meat cuts e.g. steaks, sausages; mince meat and biltong (see photos in Annex). - Sell beef products to different consumers.
Veterinary Department	<ul style="list-style-type: none"> - Extension and farmer training services. - Grading and checking of health status of animals at auction markets. - Grading carcasses at registered abattoirs. - Abattoir licensing and certification. - Works with Police in clearing all bought cattle and those in transit.
District councils	<ul style="list-style-type: none"> - Coordinate public cattle auctions in liaison with the Livestock division on scheduled dates. - Registering market participants. - Levy collection on cattle auctions.
Zimbabwe Republic Police (ZRP)	<ul style="list-style-type: none"> - Verification and clearance of cattle sold at the market to avoid trading of stolen livestock.

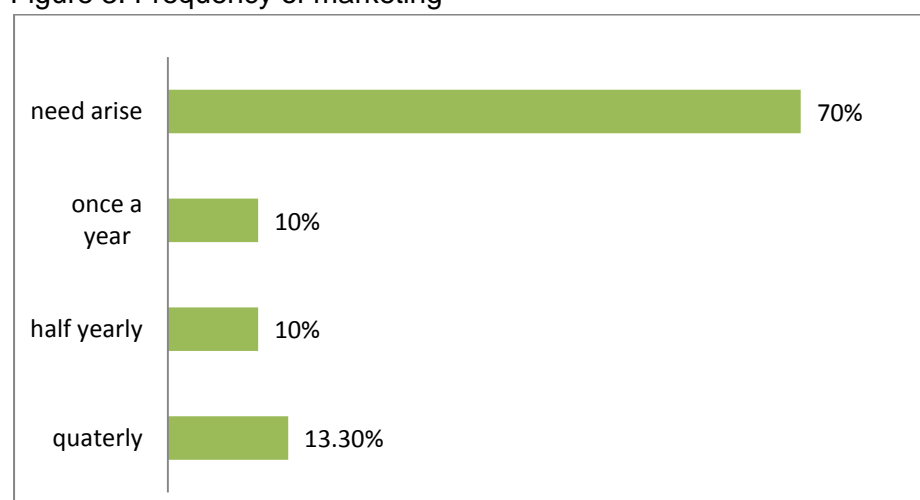
Source: Masvingo Veterinary Department (2012)

4.2 Marketing of beef cattle

4.2.1 Place and frequency of marketing beef cattle

When smallholder farmers were asked where they market their animals, different views were revealed. 10% of the farmers sell cattle at designated places in their respective villages and transactions were done by middlemen whom they are acquainted to. It shows that 20% of these farmers directly sell to middlemen. Some 33.3% of farmers wait for the buyers to come at their site while 3.3% deliver the cattle to the buyer usually a local butchery or to a nearby institution like a school in communal areas. The other 33.3% sell to organised public auctions

Figure 3: Frequency of marketing



The results from the study have shown that the majority of farmers (70%) only market their cattle when need arise especially fees for their children. It shows that there do not have a planned schedule for selling their cattle. 13.3% showed that they market quarterly while 10% market their cattle after six months. The other 10% sell their cattle once a year.

4.3 Major problems faced in the beef value chain

From the research findings, problems encountered by all interviewed actors and supporters in the chain were revealed as follows:

- Small breeds are commonly kept in the small holder sector resulting to low prices and reduced sales. They take a prolonged period to attain slaughter age. Abattoirs slaughter more cattle than the usual ones to keep with the demand.
- Dwindling of the grazing area due to human settlement has affected the cattle population.
- Most areas in the province are very dry that farmers take their cattle long distances for watering thus losing a lot of energy per day. Again results have shown that a lot of cattle lose condition during the dry season for the cattle entirely depend on extensive grazing.
- Increased cost of inputs caused by economic instability and recurring droughts result in poor conformation of cattle thus reduced quality of beef leading to lower prices than those offered for good grades. Farmers cannot afford buying supplementary feeds.

- Insufficient funds for establishment and rehabilitation of the beef auction markets in several districts by the councils and the government in the country as a whole has resulted to farmers marketing their cattle to unscrupulous dealers who sometimes buy the cattle at far low prices than those offered at public auction markets. In the case of Masvingo province under study, there are only three well established markets in Bikita, Chiredzi and Mwenezi districts.
- Farmers travel long distances to market places then sometimes get reduced prices because of the poor condition of the cattle.
- Livestock Production and Development (LPD) is presently grading animals for sale at organised auction markets. Not at the farms.
- Competition from imported beef products from nearby countries which are about 30% cheaper than the local beef products.
- Irregularities on pricing system affect all the chain actors. Illegal beef slaughtering and selling of beef is rife in the city.
- Most farmers still attach social values on cattle that they only sell them when need arise as shown by their responses. Usually marketing is done when the animal is no longer productive and in poor shape.
- At times middlemen sale cattle to abattoirs which fetch very low prices and may be condoned because they are not inspected on the farms prior to buying.
- Retailers have greater risks if the beef has low sales that they occasionally have special offers to reduce losses.
- Buyers, usually slaughter house personnel travel long distances in search of cattle as they do not have definite places and numbers at a time.

4.4. Survey findings

In depth information about small holder farmers profit shares and sustainability of the beef chain was done through a questionnaire and interviews. The results are as follow.

4.4.1 Demographic data

Sex

A higher percentage of the small scale beef farmers involved in the study were males.63.3% were males while 36.7% were females as shown in table below. The results indicate that there is involvement of both sexes in the beef chain although in most cases large livestock like cattle, sheep and donkeys are usually owned by males while small livestock like poultry are dominated by women.

Table 3: Gender of farmers

Gender	Males (19)	Females (11)
Percentages	63.3%	36.7%

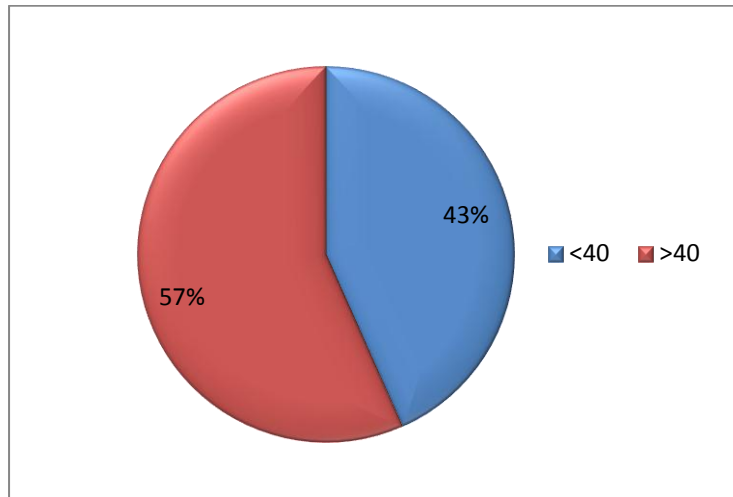
(N=30)

Age of farmers

The majority (56.7%) of the respondents involved in the study were aged above 40 years. This shows that elderly people own cattle and have established in the business already. The

upcoming young age group below 40 years (43.3%) indicates that it is now embarking into cattle farming.

Figure 4: Age of farmers

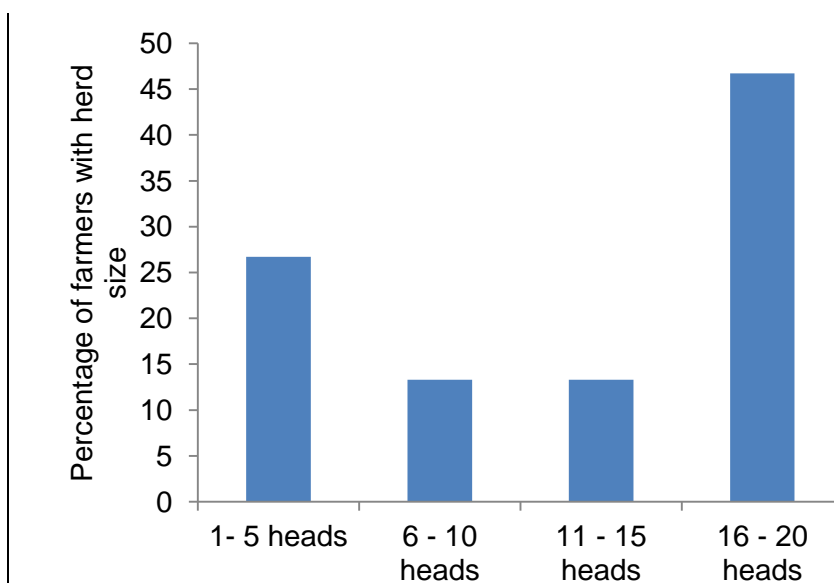


(N=30)

Number of cattle owned by these respondents

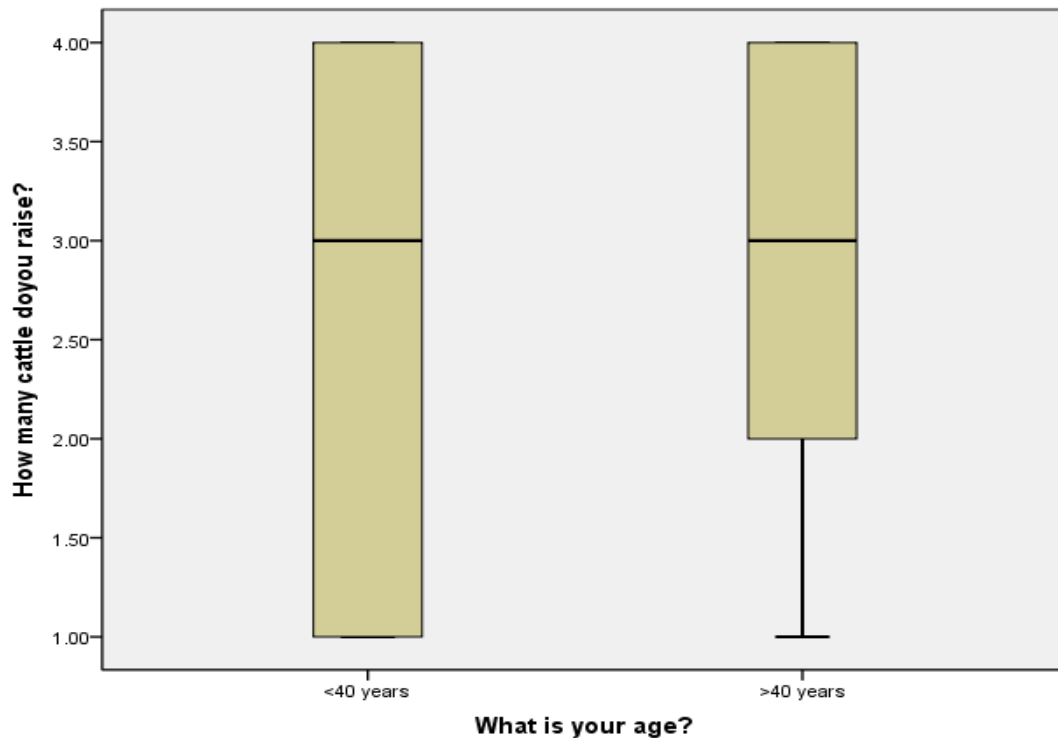
The graph below reflects that 26.7% of the respondents raise 1 -5 head cattle. Farmers with 6-10 and those with 11-15 cattle have the same percentage of 13.3% respectively. The results also show that the highest percentage of 46.7% own between 16 -20 cattle.

Figure 5: Cattle owned



(n=30)

Figure 6: Comparison of age and number of cattle owned.



The results show that there is no significant difference on the average number of cattle owned and the age of farmers. However, there is high frequency of farmers below the age of 40 years who have less than 3 heads of cattle while the older farmers above 40 years own more than 3 cattle.

Number of years in beef farming

The results indicate that there are no farmers who are less than 3 years in cattle farming while 16.7% have just started for 3 -5 years in the cattle farming business. 30% have been in the business for 6-10 while 20% are between 11-15 years. The respondents who have more than 15 years comprise 33.3%.

Beef cattle marketing information

Marketing information as depicted in the table below shows that 10% of the respondents get it through middlemen while 36.7% get it from government. 33.3% have shown that they obtain it through other farmers. However, 20% of them get information from other sources such as media.

Table 4: Source of market information

Source of market information	Middleman	Government	Farmers	Others
Respondents	3	11	10	6
Percentages	10%	36.7%	33.3%	10%

(n=30)

Age at marketing

The results reveal that the farmers do not sell weaners for restocking purposes while only 3.3 % market yearlings. 20% of the respondents market after the cattle have reached 2 years. Three year cattle are sold by 16.7% of the respondents. The greater percentage, 60% of farmers were not specific on the age of selling their cattle.

Income earned per head

Table shows that no farmer gets less than \$250 after selling any beef cattle. 6.7% obtain \$251-300 after selling young cattle and those old cows which are to be finished later for slaughter. 26.7% earn \$301-350 while 40% are in the range of \$351-\$400. Of the remaining 26.7% farmers especially those who give supplementary feeds to their livestock get higher premiums of above \$400 per head of cattle.

Location of beef farmers

Results on figure 4.4 show that 40% of small scale beef farmers are located in communal areas followed by 30% who are in A1 (old resettlement farms). 20% are located in A2 (semi commercial area) while only 10% of are other areas which might be commercial farms or just renting on small plots.

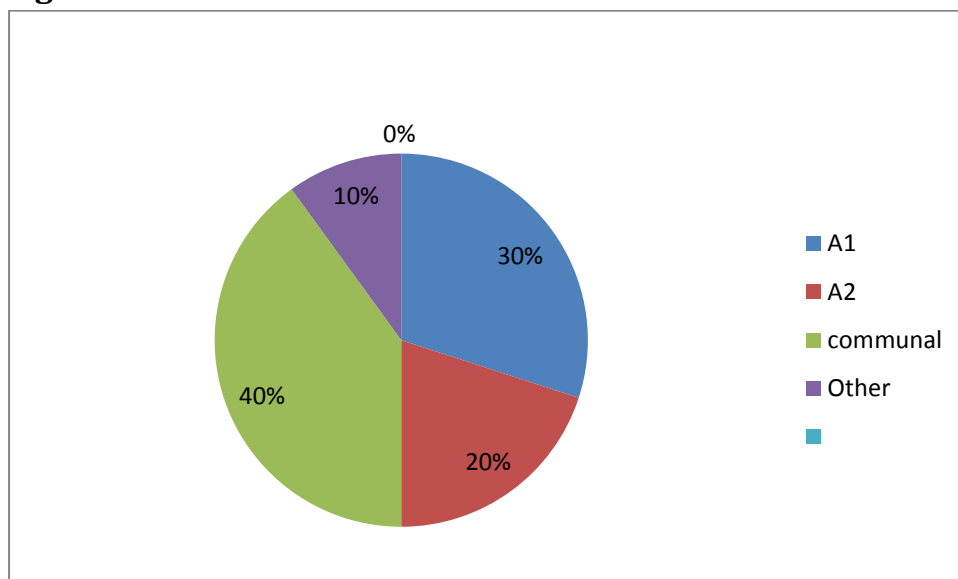
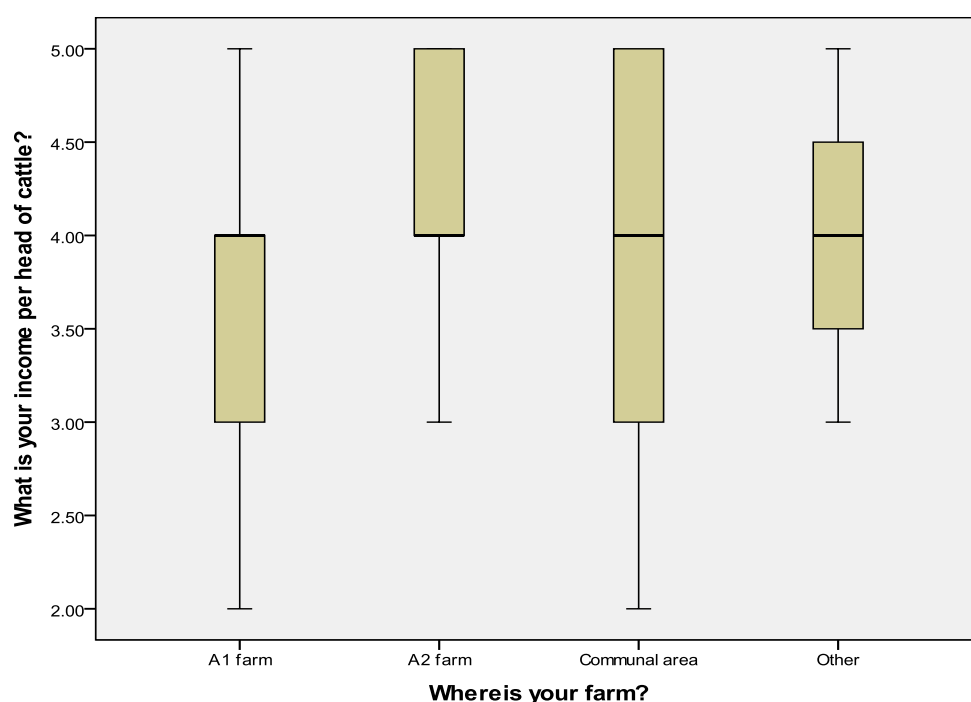
Figure 7: Location of farmers

Figure 6: Location and income earned per head of cattle sold.

Comparing the amount of income earned as per sale of cattle and the farm location, the results of the study indicate that the average amount earned is \$400 per head of cattle sold. However, the graphs show that all farmers located in A2 farms earn \$400 or more while those in A1 farms do not earn more than \$400. The farmers in communal areas extend their earnings from \$300 to \$500. Because of the greater number of smallholder farmers who are located in communal areas, there is a wider range of income. Farmers in places other than the ones indicated in the study include those in small scale purchase areas earn from \$350 to \$450. This is shown in the figure 4.6 below.

Figure 7: Comparison of income and location



Contracted to processors

Only 6.7% of the beef cattle farmers are contracted to one of the processors in Masvingo. The rest of the 93.3% of them just sell to any buyer at a time.

4.4.2 Problems in marketing beef cattle

Transport problems were faced by 20% of the beef cattle farmers while 26.7% do not have negotiating power over buyers. The other 26.7% of the farmers revealed the problem of cattle prices while 16.7% lacked market information. The last 10% of them had different opinions such as the grading system was geared towards the former commercial herd standards and the breeds they have take longer to reach the slaughter age.

4.4.3 Extension support

It shows that 16.7% of the farmers get extension support frequently while 33.3% get it occasionally. However, 26.7% seldom get support but the remaining 23.3% commented that they never got any extension support from the veterinary department.

4.4.4 Commercialisation

When it comes to how the farmers can become more commercialised to improve their profit margins, 46.7%, the majority needed improved beef breeds while 6.7% required loans to buy inputs and improve stock. 10% of the farmers wanted improved extension support while 20% required the improvement of marketing systems. The remaining 16.7% anticipated improved negotiating power on beef cattle sales.

4.4.5 Sustainability

To sustain the beef industry, 16.7% of the farmers showed that improved beef breeds will take the industry far. They also alluded that their profit margins will also improve as the quality and quantity of beef would have increased. The survey also reflected that 46.7% of the farmers needed financial support to improve their production while 6.7% were for the improvement of the animal health in order to sustain the industry. Only 3.3% remarked on restocking while the remaining 26.7% required improved marketing systems to be in place.

4.4.6 Power relations

Most farmers, 43.3%, in the study determine prices for their cattle whether sold at farm gate or at cattle markets. If they are not satisfied by the offered prices especially at cattle auction markets, they usually take back their cattle until prices are favourable. 40% showed that the middlemen determine the price while the remaining 16.7% indicated that prices are determined by market forces such as weight of the cattle, grade and demand.

4.5 Case study with other stakeholders

Several interviews were held with different actors and supporters of the beef supply chain to obtain information on the profit shares and also sustainability of the beef chain.

4.5.1 Interviews with processors (slaughter houses)

There are six abattoirs in Masvingo town but the study covered only two prominent slaughter houses. These were visited and interviewed. Table 4.3 shows the responses of the interviews.

Table 5: Interview with Abattoir managers

Question	Carswell	Montana
1.Volumes of cattle held at any given time	- 1500 heads/month -Average live mass 400kg Dressed mass 180kg -Feedlots weight 480kg live mass - 270 tons of beef/month	- 1300 heads/month - Average live mass 480kg(feedlots) -Outsourced average live mass 400kg Dressed mass 220kg (feedlots) -180kg cold dressed mass.
2. Where do you get the cattle?	- Cross sectional breeds(73%), from small scale farmers -Mwenezi, Masvingo, Bikita, -Midlands commercial farms	-Cross breeds - Masvingo province -Frequent supply from Mwenezi, Rutenga and

	-Bulawayo, Chivu and Mutare.	Beitbridge
3. Cost to get animals slaughtered	<ul style="list-style-type: none"> -Average cost/head= \$1.20/kg -Transport cost \$ 40/head - Council levy 10%/head -Vet inspection \$1.50/head -Local authority \$1.50/head -Sundries \$15.20/head -Labour \$5.00/head -Total Cost \$548/ head 	<ul style="list-style-type: none"> -Cost price = \$1.30/kg - Transport cost \$40/ head - 10%of cost price -\$1.50/head - \$1.50/head - \$15.50/head - \$5.00/head -\$588.70
4. Profit incurred per head	<ul style="list-style-type: none"> -Selling price Super grade \$4.10/kg Commercial \$3.50/kg Economy \$3.25/kg Average = \$2.40 	<ul style="list-style-type: none"> \$4.00 \$3.60 \$3.30 \$2.70 (Manufacturer grade) Average profit =\$2.00
5. Where do you get market information?	<ul style="list-style-type: none"> -Veterinary department -Abattoir association -Press -Local authorities 	<ul style="list-style-type: none"> -Veterinary department - Local authority - Press - Association
6. Government's involvement in the slaughter house	<ul style="list-style-type: none"> -Veterinary department for inspection, certification and grading of meat -Police for clearing bought cattle 	<ul style="list-style-type: none"> - Veterinary inspection, certification and grading -Clearing cattle
7. Comments about the current marketing system	<ul style="list-style-type: none"> - Stock feeds very expensive improve the beef quality \$275/ton - Current breeds are small that more cattle are now slaughtered to cater for the rising demand - Few farmers are producing super grades .Most of the beef is economy and commercial at times. - No pricing board for retailers -Competition for market share with unregistered abattoirs - Imports killing beef markets - Limited market because of export sanctions 	<ul style="list-style-type: none"> -Political interference (land reform - farm size -Some abattoirs are down standards but have minimum overhead costs - Farmers are seasonal suppliers - Beef quality deteriorating -More animals are to be killed because of the current small breeds to sustain the demand i.e. 80 heads/day instead of 60 heads which were slaughtered per day. - Droughts affect the beef quality as cattle walk long distances in search of water and forage hence lose weight. - Area for livestock dwindling due to cropping
8. How sustainable is the beef industry?	<ul style="list-style-type: none"> -Many farmers are now keeping and market cattle 	<ul style="list-style-type: none"> - Many farmers are now keeping cattle on commercial

	<ul style="list-style-type: none"> -Some small scale farmers are now into cattle business. -Value addition is practised by some farmers. -Coordination among actors i.e. slaughter houses, farmers, middlemen and retailers 	<ul style="list-style-type: none"> basis. -Constant supply of cattle -Most of the abattoirs also are in beef production that they have farms for finishing cattle.
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Source: Case study in Abattoirs (2012)

Most information from the two abattoirs was the same expect for some few items. Their major customers are supermarkets, butcheries, army and police canteens. Carswell delivers some of its beef to Harare, the capital city of Zimbabwe where higher premiums are paid. Masvingo is a small city but there are more suppliers than the demand which affects the price of beef. A lot of illegal slaughtering and beef markets are prevalent so because of the economic hardships in the country, low income consumers rush for this cheap beef. Montana on the other hand supplies the bulk of its beef to its butcheries both in Harare and Masvingo so it has a ready market for the beef. Commercial grade is mostly favoured for its high fat content by most consumers in the city. Health safety is assured in both slaughter houses. Montana has launched a farmer - feeder programme where it contracts beef farmers and supplies them with premix feeds and drugs. They in turn supply well fed beef cattle for slaughter to Montana.

4.5.2 Case study with supermarkets and butcheries

Three prominent supermarkets in Masvingo town were interviewed. These are Balmain Spar, OK and TM supermarkets. Their responses were grouped together as well. Six butcheries were interviewed three right in town while the other three are located in high density suburbs. Table 4.4 reflects their responses.

Table 6: Interview with Retailers

Question	Supermarkets	Butcheries
1. Where do you get the beef?	- Carswell and Montana meats	-Carswell, Sabi, Madzivire, Montana, Gonohori and Kismet.
2. At what cost do you get the beef?	- Depends on type and grade Super \$4.10/kg Commercial \$3.40/kg	-Consumers prefer commercial and economy grades Commercial \$3.40/kg Economy \$2.70/kg
3. How do you sell your beef and at what price?	- Variety of cuts: T-bone steak \$7.50/kg, Fillet \$7.20/kg, Brisket \$6.10/kg etc -Value addition: mince meat \$5.30/kg, sausages \$5.00/kg, Biltong \$18.50/kg	-Usually mixture of cuts @\$4.00/kg - Casings are also required by customers@ \$2.00/kg

4. Who sets the buying price?	- Slaughter houses	- Abattoirs
5. Who are your customers?	-General public - Institutions: schools, colleges	- Usually middle to low income class group of people
6. How much do you sell per week/month?	- 1500kg to 2000kg/week	- Depends on the period of the month Month end- 750kg/week Normally average of 400kg/wk
7. How sustainable is the beef industry?	-Better now as there is constant supply of beef -Competition present so high quality is maintained to lure customers	- Now there is constant supply - Prices are not attractive
8. Any linkages with other actors in the chain?	-Slaughter houses on required beef type. -Consumers especially institutions make orders for required type.	-Usually customers make orders of casings.

Source: Own field study in Masvingo town (2012)

Butcherries have several suppliers especially those which are in high density suburbs. Although regular inspections are carried out for health safety, uninspected beef is usually mixed with the inspected one to cover up running costs. Supermarkets are highly inspected and maintain high standards as they have a wide range of customers. They do value addition to lure more customers. See Annex 2. Some butcherries buy beef from middlemen at negotiable prices thus below that of abattoirs.

4.5.3 Interview with Livestock and Veterinary services

One veterinary doctor and two livestock officers were interviewed. Statistical data on cattle population and permission to visit slaughter houses were obtained from these offices. The study shows that they work in three categories:

- Veterinary regulatory service for ante mortem and post-mortem meat inspections, abattoir licensing and certification as well as issuing livestock permits.
- Veterinary field services for extension and advisory services, farmer training, preparing technical documents and distribution of calendars
- Livestock production and development for live cattle grading at organised auction markets, monitoring and evaluation of projects and carcass grading at slaughter houses.

Market information is disseminated through extension officers who work in respective wards. They highlighted the following current challenges of the beef cattle production:

- Low quality breeds.
- Inbreeding leading to low birth weight, low market weight, high mortalities, decrease in disease resistance.
- Inadequate dipping and dosing.
- Insufficient resources and know-how.

- To improve the cattle marketing, priorities of the government are to set up breeding centres throughout the country, open new auction markets and inject capital to smallholder farmers.

4.5.4 Middlemen/traders interview

Two regular traders showed that they source cattle all over the province then gather them up to deliver them to slaughter houses or individual butcheries in communal areas. They usually buy 5 oxen and steers at an average price of \$300. If they get cows and heifers, they exchange for slaughter beef. They move door to door so build trust among farmers. They revealed that their income is determined by the prevailing situation like festive seasons and the grade of cattle they have sourced. Although they encounter problems in the business especially transport and quantity obtained, they can negotiate and build trust more easily with farmers.

4.5.5 Consumers interview

Consumers had different opinions on where they obtain their beef. Most of them confirmed that they prefer safe, fresh meat and do not mind whether from a butchery or supermarket. However, high income (20%) class buys from supermarket where there is variety of beef products. Medium and low income groups buy from butcheries of their choice where they commented that prices are affordable. The other mixed group of about 30% of the respondents admitted that they have their regular suppliers who bring it from nearby butcheries where they pay at the end of each month or have beef committees where they buy and share the beef as a group. The majority consumed beef regularly as the main relish.

4.3.5 Interview with cooperative officer

Little has been done on livestock farmers presently although some farmers are members of the old Zimbabwe farmers union. However, operational cooperatives are being manned by non-governmental organisations like Heifer International Project in chosen areas where groups of farmers are engaged in the heifer project.

Table 4.6 Profit margins for beef chain actors per month

Item	Small holder farmer	Commercial farmer	Trader	Abattoir	Super market	Butchery
Output of beef	180kg	2200kg	900kg	270000kg	7000kg	2200kg
Price/kg	\$1.80	\$2.20	\$3.00	\$3.60	\$7.20	\$4.00
Total revenue	\$324	\$4840	\$2700	\$972000	\$50400	\$8800
Expenses						
Variable costs						
Cost of beef	\$115	\$1275	\$1080	\$324000	\$25270	\$5500
Transport	\$20	\$100	\$200	\$2800	\$100	\$100
Labour	\$15	\$200	\$50	\$600	\$1000	\$150
Levy	\$1.50	\$15	\$30	\$200	\$50	\$50
Utilities	\$1.50	\$15	\$1,50	\$200	\$200	\$100
Miscellaneous	\$10.00	\$100	\$40	\$300	\$400	\$150
Total costs	\$163	\$1705	\$1401	\$328100	\$27020	\$6050
Gross Income	\$161	\$3135	\$1299	\$267400	\$23380	\$2750
Profit/kg beef	\$0.89	\$1.43	\$1.44	\$0.99	\$0.48	\$1.25

Source: Own research study calculation presented in Table 4.3 and 4 (2012)

Small scale beef farmers get \$0.89 per kilogramme of beef per month but as on ground they do not sell cattle monthly as compared to other actors who continuously get profits. Their counter parts thus commercial farmers have a higher profit margin due to higher prices and grades fetched per kg of beef.

4.7 Beef Value Shares of actors in Masvingo

There are two chains where abattoirs buy directly from farmers and the other one involves a middleman.

Table 8: Beef value shares of two chains (US\$ per head of cattle)

Chain Actor	Variable costs	Revenue	Gross income	Added value	Gross margin	Value share
Beef producer	163	324	161	324	50%	25%
Abattoir	219	648	429	324	66%	25%
Retailer	693	1292	599	644	46%	50%
Beef producer	163	216	53	216	25%	30%
Middleman	280	324	44	108	14%	15%
Abattoir	180	450	270	126	60%	17.5%
Butchery	232	720	488	270	68%	37.5%

4.4 Strategies used to market beef cattle and products

The study through observations and interviews has shown that the marketing mix strategies are also implemented in the beef marketing. Table 4.5 reflects the observed results.

Table 9: Marketing Strategies

Product	Both live and processed beef cattle are sold throughout the chain. Producers are farmers who sell live cattle to buyers who later slaughter them and process the carcasses. Slaughter houses sell the meat to retailers who are supermarkets and butcheries. Value addition is done to several beef products and different prices occur as mentioned above. Consumers have a wide selection on the type of beef products.
Price	Cost price of cattle depends on the condition and weight of the animal. Average price of well fed beef cattle normally fetches \$400 to \$500. The beef cuts and other products also depend on grade and value addition. This ranges from \$2.70 to \$18.50(biltong).
Place	Beef cattle are found in rural areas and farms while the beef products are sold in supermarkets and butcheries.
Promotion	Auction dates are given in advance to buy/sell cattle. Different beef products special promotions are constantly done especially in supermarkets.

Source: Field research study (2012)

4.6 Strategies that improve the farmers' margins and sustainability

From the field research carried out, different opinions were raised by the respondents.

- There must be trust and relationship throughout the chain to have fair distribution of profits.
- Each district council together with the government to establish and rehabilitate beef cattle markets with well calibrated equipment. Cold Storage Company
- Setting up of the breeding centres throughout the country to facilitate upcoming and old farmers to produce pedigree breeds which have higher market values.
- Support from government in the form of loans for farmers as is being done for the grain loan scheme in the country.
- Establishing feedlots in different areas to improve the beef quality.
- Management of natural pastures from veld fires to reduce production costs.
- Reducing slaughter age by selling cattle at the correct mature age depending on breed.
- Farmers to change the mindset of keeping animals for commercial purposes.

4.7 Coordination and power relationships within the chain

The results indicate that some actors were coordinated while others were not. This is shown when some farmers get back with their cattle after disagreeing with offered prices at the market. Farmers have power over their cattle but slaughter houses have buying power. They are only aware about the grading system when they have already registered to market their cattle. One of the slaughter houses has confirmed that it has launched a farmer - feeder programme where farmers are contracted and supplied them with premix feeds and veterinary drugs. It confirms that presently, there are 294 heads of cattle in 5 smallholder farmers' feedlots. Retailers make orders on required beef type then the beef is delivered to them. Institutional consumers make requisitions on type and quantity of beef they need at that time.

Chapter 5: Discussion on improvement of small holder farmers' margins

The important ways of improving smallholder farmers' margins, power relations and coordination among the beef chain actors and ultimately sustainability of the beef value chain are discussed in this chapter. The results obtained from the survey with different beef farmers as well as the case study with other stakeholders in the beef value chain are compared with information reviewed in literature and then interpreted on any similarities or differences.

5.1 Sustainability of the beef value chain in Masvingo province

From the results it shows that there are several beef actors and supporters of the chain from production of beef cattle to final consumption (Boomsma, 2008). With this larger array of actors in the market, running on smaller turnovers and lower margins, the risks for any player is greater. The demographic data depicts that the main cattle owners are males (63.3%) although females are now in the cattle business. Traditionally, large classes of livestock were owned by males while females were for the small ones like poultry. Again cattle are linked to social values (Scoones, 2008). Generally, smallholders are relatively more competitive in ruminant than monogastric production as confirmed (McDermott et al., 2010 and Herrero et al., 2010).

The availability of large tracts of land for fattening up animals bought from the communal areas is no longer available (Mavedzenge, 2008). These farmers are in different farm set ups but the trend of cattle rearing is the same. There is no significant difference in the location and number of cattle owned as indicated by the results. However, Utete (2003) noted that while many parts of Masvingo, especially Mwenezi district are suitable for cattle ranching, many farms designated to such ranching were demarcated into plots for cropping, which he thought has a negative impact on beef production.

In the study 46.7% own cattle in the range of 16 to 20 per farmer which is a considerable number for a smallholder farmer with limited capital to buy inputs. The results of the study have indicated that most cattle farmers above 40 years of age have more cattle than those upcoming young farmers below 40 years. According to the World Bank report (2011), most cattle (80%) are kept traditionally by small holder cattle farmers as in Zambia, and are much less productive than their counterparts commercial farmers because they are influenced by social and cultural factors as well.

This development shows that although cattle are kept for multiple functions as mentioned earlier, the commercial element is still lagging behind among farmers as shows by their unscheduled marketing period. The study has shown that 70% of the farmers only sell their cattle when need arise. This practice is detrimental to profit making because many risks can be come by when cattle are kept indefinitely. However, other actors in the chain are showing some profit in the beef industry as they employ different marketing strategies in the chain. Problems commonly highlighted in marketing of cattle were mainly caused by prices offered on the market such that these farmers do not have negotiating power over the prices. This was supported in M4P, (2008), that the key governors of the chain control the key asset, in this situation, it is capital. The buyers decide the price considering the form and condition of

the cattle. The beef chain clearly indicates that there is continuity of the beef chain for the province has shown statistically an increase in cattle population since 2009 from 877 813 to 993 213 presently (Masvingo Provincial Veterinary report, 2012) Check annex 1. It also shows that cattle farming have been part of the agricultural practice in the area as 33.3% of the respondents have been in cattle business for more than 15 years.

5.1.1. Players in beef value chain

It was found in the study that there are two beef chains which are operational in Masvingo. The more formal way is the inclusion of abattoir which has several functions in the chain thus buying cattle, finishing, slaughtering/processing and wholesaling. There are other slaughter houses that have butcheries such that they dominate the whole chain. The other chain includes a middleman who moves from area to area sourcing cattle. Although it seems to be an informal way, results show that 20% of the respondents sell directly to middlemen while 10% of the farmers trust middlemen to make transactions for them. They commented that the middlemen just buy the cattle without any inspections and grading but only had a sentiment of getting lower prices than those offered at public markets. Farmers have built some mutual understanding with these traders. Smallholder farmers had sentiments of their breeds of cattle which take long to attain the slaughter ages. However, the middlemen complained about farmers not keeping to their promises of selling cattle to them. There is no scheduling of marketing of cattle by 70% of the farmers. Results reveal that they just sell cattle at any size of growth when need arise (figure 4.3).

Abattoirs on the other hand travel long distances within and outside Masvingo sourcing cattle. They also mentioned that because of many competitors in the field, they need to build strong relationships with producers so as to have constant supply of cattle. One of the abattoirs has launched a farmer - feeder programme where it contracts beef farmers and supplies them with premix feeds and vet drugs. They also carry out extension services to contract farmers though it is the work of the livestock and veterinary department carry out such services. The farmers in turn supply well fed beef cattle for slaughter to the abattoir (Montana).

Consumers had different opinions on the type of beef they consume. They use intrinsic and extrinsic attributes when determining meat quality. Grunert (2006) has supported that extrinsic signals will play a greater role in influencing the buying behaviour of the consumer in the future. Because of the market segmentation within the chain, the high income consumers which are a niche market paying high premiums of an average of \$7.50/kg. Medium and low income consumers buy from butcheries ranging from \$2.50 to \$4.00/kg depending on meat type. Most consumers in high density suburbs have resorted to buy from informal markets where beef is slaughtered then sold to urban consumers illegally. Traders bring pre packed beef for their customers at regular interview. Usually the beef customers take on credits then pay at month ends.

Retailers especially supermarkets do a lot of value addition to their beef therefore realising more profits. There is a wide range of prices from \$5 to as much as \$18.50 depending on the grade and type of beef product. The photograph below shows a variety of these products. The butcheries in the city have a limited value added products because they have a targeted group which cannot afford the supermarket prices. Those butcheries in high density suburbs target the low income group therefore sell beef products like casings and lower grades

(economy and commercial). However, quality is usually compromised when they get beef from cheaper abattoirs which normally buy from traders and have reduced running costs.

Figure 4.8 Value additions on beef.



Source: OK supermarket, Masvingo, Zimbabwe (2012)

The veterinary department together with the Livestock production and development have a major role in the improvement of the beef chain. Although it has been working to improve the marketing system through facilitation of auctions, farmers need to be more commercialised to improve off take resulting to more profits. They carry out different functions from ante mortem to post-mortem inspections and certification to abattoirs. However, they do not carry out these inspections and grading at farm level therefore middleman takes advantage of this situation. Farmers on the hand normally take back their cattle when they are not impressed by the grade offered at auction markets. This discourages them for they travel long distances again with their animals. They end up selling to middlemen where they just negotiate prices through visual judgement.

Local authorities function in two ways. Rural councils collect levies in their respective districts on auction days while the city council authority is responsible for health and safety from slaughter houses to retailer shops where beef is sold to the final consumer. However, the levies collected were not pleasing the abattoirs for they feel that there is duplication of duties because the veterinary doctor would have inspected the meat, so there is no need for the local authority to inspect again.

5.1.2 Challenges and opportunities of chain operators

The farmers in the province encountered different problems altogether but generally they have breeds which have of low maturity weight as compared to the crossed breeds or the exotic beef breeds (Musemwa et al,2007). This entails them to keep them longer increasing the production costs especially labour. Although literature has shown that the small holder sector supplies 73% of the beef in the country, many cattle are in poor conditions that low farm receipts are obtained. Annex 2 shows the condition of cattle which are not finished and are brought for slaughter. McKiernan et al, (1998) agree that the improved beef breeds of cattle carry considerable muscle especially around the lion and possess a greater efficiency

of converting poor quality forage into a good quality protein (meat). Access to capital is another hindrance to improve beef production which resulting high grades fetching higher prices on the market (Bijman, 2007). However, there appears to be a major constraint to the improvement of the local beef fattening enterprises (Jean, 1993). According to Onucheyo (1999), the greatest need for present day small scale farmers in Nigeria is capital for modernisations and expanding their operations. Increased cost of inputs is another setback in beef industry. Most respondents showed that they rarely feed supplements to their cattle. They entirely rely on the natural pastures resulting to poor grades attained at the market. This was supported by KIT and IIRR (2008) supported that the beef chain in the region lack stakeholder with the right vision to develop the chain apart from protecting their interest. Gambiza and Nyama (2000), also agree that small-scale producers are at a disadvantage because they have little capital to invest, use traditional techniques, depend on family labour and lack contact with (international) market players. Most areas are drought stricken that farmers take their cattle for long distances for watering causing a lot of energy loss per day (Chamberlain and Wilkinson, 1996). According to Dlodlo (2011) in Zimbabwe Farm News, some of the challenges facing the beef cattle sector include lack of veld and herd management skills, lack of farming and business skills, as well the absence of capital for infrastructural development in the country.

Cattle traders commented about the competition with big players in cattle trading. Although they have built strong relationships with farmers, most farmers are just selling their cattle to any buyer they find nearby as they do not have a scheduled marketing routine.

Slaughter houses alluded that they are getting poor quality beef that they sometimes finish the beef cattle on their feedlots to maintain their good reputation with customers of providing high quality meat. One of the slaughter houses is now contracting small holder farmers then provides them with the required inputs to produce high quality meat. Some the cattle which are brought for sale are very old and in bad shape but generally the good ones fetch better prices. Because of the market segmentation of beef, some abattoirs take their beef to Harare, the capital city where higher premiums are realised. Competition with other cheap beef suppliers is now a threat as illegal beef activities are common in the city. Although inspections are necessary to ensure health and safety, some of licences are a duplication of duties resulting to increase in production costs.

Veterinary department commented that not all farmers are willing to commercialise their production but have improved on animal health aspects. The farmers constantly come for consultation in most cases. They also highlighted on insufficient resources and farmers' knowhow to improve the breeding stock.

5.1.3 Profit margins

Comparing the gross margins for different chain actors, farmers seem to have a higher margin of 50% than supermarkets (retailers) but they get less benefit than other players due to economies of scale. Farmers get less farm receipts as indicated that there are some farmers (70%) who only sell their cattle when need arise as compared to other players who constantly market their cattle throughout the year. They are more in supply chain rather than value chain as they are price takers only (Cousins et al, 2005). The profit /kg beef of farmers is \$0,89 while that of traders and butcheries are \$1.44 and \$1,25 respectively. Retailers especially the supermarkets enjoy the highest margins for there is product value addition and differentiation (50%) of the value share .Those farmers who had gone commercially

benefit from the higher prices offered on the market because of their cattle's increased daily weight gain and in turn higher sale weight (Morton, 2007). The results of the study have shown that commercial farmers get \$1.43/kg profit. Although the cost of feed is becoming more expensive because it is now being imported, these farmers still benefit from the high sale price due to better carcass quality.

When considering the other chain with the middleman, the smallholder farmer has less gross income (\$53) than \$161 in the other chain although the variable costs are the same. This is because of the reduced price offered by the middleman. On the other side butcheries, enjoy the profits because they sell all the grades of meat with the same price of \$4.00 which they would have obtained at a reduced price than that offered at big abattoirs (\$1.80/kg). Tables 4.5 and 4.6 compare profit margins.

Through suggestions gathered from the case study with various stakeholders, farmers can improve their equity by increasing cattle sales rather than sticking to the cattle until there are no longer productive. It was also revealed that if they sell the animal at the right age when it has high feed conversion rate, they can invest on two more young cattle be it a heifer or steer. This improves their profit margins. When farmers purchase livestock at the most competitive price, they will also market them at the most competitive price. Their marketing strategies should improve. Contract farming as shown by some respondents is important in supporting the production base. Some are now contracted to one of the abattoir (research findings). Value chains have become increasingly buyer driven and vertically integrated. Small holder farmers in this study are struggling to finance their beef business due to capital constraints, or failure to access bank loans. Musemwa et.al (2007) supported that cattle producers should approach production and marketing as teams, creating alliances that can capture higher prices and profitability, decrease exposure to market risks and instability and help producers to respond to competition from other protein sectors.

5.1.4 Coordination among beef actors and supporters

Information gathered from the chain operators suggests that there is coordination between farmers and middlemen in cattle marketing then with slaughter houses. In turn abattoirs are link to retailers thus supermarkets and butcheries. It was seen that abattoirs have different functions along the chain. They link with farmers to have constant supply of improved cattle quality as reflected in the farmer- feeder programme launched recently. The whole chain is market driven because they produce to target a particular market or customer segment based on specific qualities. While the butcheries target low income end consumers, supermarkets are for high income group. In the absence of formalised coordination mechanisms, other than those derived from relational, trust or clan linkages, the ability to leverage the value chain to improve the benefits of value chain participation for producers is limited (KIT and IIRR.2008). Although there is no functional farmers' organisation, information flow among farmers is evident. This was indicated on the source of market information (Table 4.2). On the other hand, even if farmers do not sell to the same traders, there is still mutual respect and trust between them. The livestock division coordinates public auctions and grading of both live cattle and meat so that there is no cheating of prices along the chain. Trieneken, (2011), pointed out that lack of an enabling environment offering institutional and infrastructural support, availability of resources and efficient and effective coordination in value chains are important barriers for developing country producers. The

Provincial veterinary services also link with other stakeholders like Coopers Zimbabwe on Primary Health care as reflected in the June, 2012 report.

5.1.5 Power relations

Considering results from the study, power relationships in this beef chain are varied. Farmers have less power over their cattle although they can decide whether to sell or not as evidenced by their cattle withdrawals if prices are not conducive at the markets. Overall, abattoirs hold the utmost power in chain for they do not entirely depend on these small holder farmers to source cattle. They also source from other commercial producers and distribute their beef to several outlets. The results indicate that some abattoirs deliver some of the high quality beef to the capital, Harare. Kaplinsky and Morris, (2001) support that if the actor's dependency is less than the dependence on the lead firm, it has more power in the chain.

Chapter 6: Conclusions and recommendations

From the survey carried out on the sustainability of the beef chain in Masvingo, Zimbabwe, many players are involved in the chain. Based on the above discussion, it may be concluded that small holder beef farmers who are located on different settlements in the province, supply a greater proportion of beef which is consumed in and around Masvingo. They supply 73% of the cattle slaughtered in the chain. The farmers' margins appear to be greater than other actors in the chain considering their low input production systems practised but in real sense, they remain with low farm receipts due to poor quality and reduced number of cattle they market.

Assessment of the whole beef chain in the province has been conducted and conclusions drawn show that there are two major chains which are operational at the moment. These chains differ in profit and cost sharing arrangements. Most stakeholders interviewed are in favour of the chain without the middlemen while few farmers and butcheries perceived the role of middleman as essential in the marketing of their beef cattle. Results also reveal that slaughter houses are monopolistic in the whole chain as they have greater power relations and functions in the chain.

Ways of improving the farmer's margins in a more realistic manner were outlined by all the stakeholders of the chain. Management of the existing stock together with improved breeds were seen as the major factors which can improve the farmers' profit share. These breeds together with improved knowledge of production will improve the quality of beef resulting to higher premiums offered on the market. However, several constraints were highlighted concerning the production and marketing system of beef.

Capital is a hindering factor in the whole chain. Although farmers have resources that include land tenure and infrastructure for the production of beef cattle, they cannot afford to buy feeds and veterinary drugs to improve the weights and conditions of the cattle which will make them realise profits. They are also limited to increase their cattle herd size due to this factor. Middlemen on the other hand only buy few cattle at a time due to limited funds. This increases their costs of transporting cattle to slaughter houses. Some butcheries buy low grade beef from abattoirs so as to obtain profits for some grades are even greater than the selling price (super and choice grades). Livestock and veterinary departments also could not constantly carry out their planned programmes in the province due to limited funds.

Increasing scale of production and reducing the marketing age of cattle would enhance the sustainability of the beef chain together with increased farmers' margins. Presently prices which are offered on the market look lucrative (\$351 - \$400/head) so increased off take of improved quality cattle will take the industry a long way. The tradition mind sets of attaching social values to cattle are another drawback to the chain as farmers do not take cattle rearing commercially. They keep cattle until they are no longer productive then market them in those poor conditions.

Coordination and power relations were shown as inadequate in the chain. Although efforts are being implemented on contracting farmers and notifying them on auction dates, asymmetries on market information especially prices lack that there is mistrust and risks

along the chain. It was also shown that chain integration either vertical or horizontal with the support of government, other actors and development agencies will improve farmers' margins and power relations resulting to the sustainability of the beef value chain.

Recommendations

Based on the conclusions drawn from the study, there are challenges in the beef chain which need to be addressed to improve farmers' equity and ultimately sustainability of the beef value chain in the province. Exploiting the available opportunities will contribute to improved incomes for these beef farmers. The following recommendations are made:

- Farmers should take prompt action in changing their mindset to entrepreneurship so as to improve their equity. With the stock they have, they should take care of them to improve the beef quality through supplementary feeding with home grown and made rations. Although they practice extensive grazing, the farmers should mobilise resources to prepare feedlots as a group to finish their cattle for the market. In this way, they can improve the condition of their cattle resulting to increased profit margins. Animal health issues should be addressed as soon as they occur.
- Through integration with other stakeholders, both horizontal and vertical, farmers should preserve an area within their localities for grazing their cattle. Most of the stover especially groundnut is left to decompose or consumed by other animals from nearby villages while the farmers cattle are not benefiting. The stover can be well preserved and fed to livestock during the dry months by these small holder farmers. Pasture improvement and management knowledge to be obtained through trainings from the livestock and production department regularly.
- Inspection and grading of animals should be done right on the farm by the livestock department not only on the market sites where the farmers are sometimes discouraged by the price offered. This builds trust within actors.
- To get high cattle prices, farmers need to improve their marketing systems so that they sell cattle at the most appropriate period when the animal's feed conversion rate is at its peak. Younger, well fed cattle normally fetch higher grades resulting to increased income. A marketing schedule should be put in place as well.
- Although cattle have multi functions on the farm, the small holders have to finish their cattle to put them in good form prior to selling them.
- Farmers need to form producer organisations which can be instrumental in linking them with other commercial farmers where they can obtain improved breeds either using a bull or artificial insemination.
- Consumers have to be educated on food safety so that they are aware of the source of beef they consume to reduce the tendency of buying from illegal traders who market uninspected beef.
- The Zimbabwe Farmers Union (ZFU) can restructure its activities to cater for beef cattle farmers.
- Contracting farmers by abattoirs should strengthen the relationships among stakeholders which will ultimately have fair distribution of power and profits.
- Because of a viable veterinary department in place, the slaughter houses have the potential to increase value added processing of livestock products much of which can be exported within the region or to more lucrative markets of the world. New non traditional markets must be exploited as well.

References

Ayele, S., Assegid, W., Belachew, H., Jabbar M. A., and Ahmed, M. M., 2003. Livestock marketing in Ethiopia: A review of structure, performance and development initiatives. Socio-economic and Policy Research Working Paper 52. ILRI (International Livestock Research Institute), Nairobi, Kenya. 35pp (accessed 11/07/12).

BCMAFF, (2002). Small Scale: Planning For Profit Enterprise Budget, British Columbia Ministry of Agriculture, Food and Fisheries <http://www.agf.gov.bc.ca/busmgmt/>. Accessed (4/09/12).

Bijman, J. 2008. Contract farming in developing countries: An overview. Wageningen University, Wageningen, The Netherlands.

Bijman, J. 2007. The role of producer organisations in quality-oriented agro-food chains; an economic organisation perspective. In: Governance for Quality in Tropical Food Chains, edited by Ruben R., M. van Boekel, A. van Tilburg, and J. Trienekens, 257-278. Wageningen: Wageningen Academic Publishers.

Boomsma, M., 2008. Sustainable Procurement from Developing Countries. KIT, Amsterdam. Bulletin 385.64 p. ISBN 9789068327458

Campbell, B.M., Dore, D., Luckert, M., Mukamuri, B. and Gambiza, J. 2000. Economic comparisons of livestock production in communal grazing lands in Zimbabwe. *Ecological Economics* 33: 413-438.

Chamberlain, A.T. and Wilkinson, 1996. Feeding the dairy cow: Chalcombe Publications, Hampshire, Great Britain.

Cousins, B. and Scoones, I. 2009. 'Contested paradigms of 'viability' in redistributive land reform: perspectives from southern Africa'. *Working paper for Livelihoods after Land Reform Project*.

Cousins, P.D., Handfield, R.B., Lawson, B., and Petersen, K.J., 2005. Creating supply chain relational capital: The impact of formal and informal socialization processes. <http://www.sciencedirect.com/science> (accessed 03 /09/12)

Department of Veterinary Services, Province livestock statistics (2012), Masvingo province, Zimbabwe.

Dlodlo, T., (2011). Beef production nose dived: in Zimbabwe Farm News <http://www.thezimbabwean.co.uk/news/zimbabwe/50201/beef-production-nose-dives.html> (Accessed 1/09/12).

Gambiza, J., and Nyama, C., 2000. Country Pasture/Forage Resource Profiles; Zimbabwe FAO Grassland and Pasture Crops

Gereffi, G. (1994), "The Organization of Buyer-Driven Global Commodity Chains: How U. S. Retailers Shape Overseas Production Networks", in Gereffi and Korzeniewicz (eds) *Commodity Chains and Global Capitalism*, London: Praeger.

Gereffi, G., Humphrey, J. and Sturgeon, J. 2005. The Governance of Global Value Chains. *Review of International Political Economy*, 12(1): 78-104

Government of Zimbabwe, (2009). *Second Round Crop and Livestock Assessment report*. Ministry of Agriculture, Mechanisation and Irrigation Department.

Grunert, K.G. (2006). Future trends and consumer lifestyles with regard to meat consumption. *Meat Science*, Vol. 74, Issue 1, September 2006, pp. 149-160.

GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit GmbH), 2007. Value Links Manual: The Methodology of Value Chain Promotion, First Edition. Found at Internet address <http://www.value-links.de/manual/distributor.html>

Haeni, F., Braga, F., Stampfli, A., Keller, T., Fischer, M. and Porsche, H., 2003. International food and Agribusiness management review. Volume 6, Number 4.

Hammar, A., B. Raftopoulos and S. Jensen, (2003) 'Zimbabwe's Unfinished Business', Rethinking Land, State and Nation in the Context of Crisis. Harare: Weaver Press.

Harare, Surveyor General, (2001) Zimbabwe, Natural Regions and Farming Areas, 2nd Edition].

Jean, P. (1993). "Animal production in the tropic and sub-tropic". First edition, Macmillan Press Ltd., London.

Kaplinsey, R. and Morris, M., 2001. A Handbook for Value Chain Research of Development studies, University of Sussex.

KIT and IIRR. 2008. Trading up: Building cooperation between farmers and traders in Africa. Royal Tropical Institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi.

KIT and IIRR. 2010. Chain empowerment: Supporting African farmers to develop markets. Royal Tropical Institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi.

KIT and IIRR. 2010. Value Chain Finance: Beyond Microfinance for rural entrepreneurs. Royal Tropical institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi.

Luning P.A. and Marcelis W.J. 2009. Food Quality Management. Wageningen Academic Publishers Wageningen, the Netherlands

Madzudzo, E and Hawkes, R. 1996. 'Grazing and Cattle as Challenges in Community Based Natural Resources Management in Bulilimangwe District of Zimbabwe'. *Zambezia XXIII*, (I): 1-18.

Mavedzenge, B.Z., J. Mahenehene, F. Murimbarimba, I. Scoones and W. Wolmer (2008). The Dynamics of Real Markets: Cattle in Southern Zimbabwe Following Land Reform. *Development and Change*, 39 (4):611–637.

- Mc Kierman, W. A., W. Hoffman, S. Baraide, and D. J. Johnson. 1998. Feeder steer assessment that are guides to feed lot and carcass performance. Proceedings of Beef Product Conference, NSW Agriculture for Midale.
- McDermott, J. Rich, K. Gebremedhin, B. and Burrow, H. (2010). The Role of Livestock in Developing Communities: Enhancing Multifunctionality) Value Chains and Innovation
- Mc Kierman, W. A., Hoffman, W., Baraide, S. and Johnson, D. J. (1998). Feeder steer assessment that are guides to feed lot and carcass performance. Proceedings of Beef Product Conference, NSW Agriculture for Midale.
- Mlambo, A. (1996). The Cold Storage Commission: A Colonial Parastatal, 1938–1963', *Zambezia* 23(1): 53–72.
- Morton, J., 2007. The impact of climate change on smallholder and subsistence agriculture Available online at <<http://www.pnas.org/content/104/50/19680.full.pdf+html>. (Accessed on 14/07/2012)
- Moyo, S. and P. Yeros (2005) 'Land Occupations and Land Reform in Zimbabwe: Towards the National Democratic Revolution', in S. Moyo and P. Yeros (Ed) *Reclaiming the Land: The Resurgence of Rural Movements in Africa, Asia and Latin America*. London: Zed Books
- M4P (Making Markets Work Better for the Poor), 2008 (version 3); Making value chains work better for the poor.
- Musemwa, L. Chagwiza, C., Sikuka, W., Fraser, G., Chimonyo, M. and Mzileni N., 2007. Analysis of cattle marketing channels used by small scale farmers in the Eastern Cape Province, South Africa. [Http://www.cipav.org.co/lrrd/lrrd19/9/muse19131.htm](http://www.cipav.org.co/lrrd/lrrd19/9/muse19131.htm) (accessed 6/08/12).
- National livestock policy document. 2004: 14-15: Zimbabwe.
- Onucheyo, E. (1999). Political decision in the Nigerian agricultural industry, Taniaza Publishing Company Limited, Zaria.
- Phimister, I. (1978) 'Meat and Monopolies: Beef Cattle in Southern Rhodesia', *Journal of African History* 19(3): 393–5.
- Richtner, P. (2005). Linking value chains Analysis and Making markets work better. Application of value chains in development projects. Reporting on Srilanka experiences. www.mesopartner.com/publications/Meyer-Stamer+Waeltring_-. ACCESSED on 04/05/2012.
- Rodrigo, J.B. 2007. Improvement of Forage Management of Backyard Cattle Farmers and Ranchers in Isabela, Philippines.
- Roduner, 2007. Donor interventions in Value Chain Development. SDC, Bern. 20p
- Samasuwo, N. (2003) 'Food Production and War Supplies: Rhodesia's Beef Industry during the Second World War, 1939–1945', *Journal of Southern African Studies* 29(2): 487–502.

Scoones, I., B. Mavedzenge, C. Mudziwo, F. Murimbarimba and W. Wolmer (2001) 'Drought Contingency Planning and Livestock in Southern Zimbabwe: Case Studies from Chivi and Chiredzi District', in J. Morton (ed.) *Pastoralism, Drought and Planning*, pp. 37–59. Chatham, UK: Natural Resources Institute.

Silva C. A. and Hildo M. de Souza Filho, 2007. Agricultural Management, Marketing and finance occasional paper guidelines for rapid appraisals of agrifood chain performance in developing countries food and agriculture organization of the United Nations, Rome.

Surveyor General 2001. Zimbabwe, Natural Regions and Farming Areas, 2nd Edition].

Trienekens. J. H., (2011) Agricultural Value Chains in Developing Countries
A Framework for Analysis International Food and Agribusiness Management Review
Volume 14, Issue 2, 2011

The Herald Online - Zimbabwe, 2012. The Cattle site Latest News.

Utete, C.M.B (2003). Volume 2: Special Studies: Report of The Presidential Land Review Committee. Zimbabwe: Government Printers

Van Rooyen, A.F. (2006) Livestock development in Southern Africa: Future Research and Investment Priorities. International Crops Research Institute for the Semi-Arid Tropics, Bulawayo, Zimbabwe

Vermeulen, S., Woodhill, J., Proctor, F., and Delnoye, R., 2008. A guide to multi-stakeholder processes for linking small-scale producers to modern markets. Institute for Environment and Development (IIED), UK and the Capacity Development and Institutional Change Programme (CD&IC), Wageningen, the Netherlands.

Verschuren P and Doorewaard H, (2010). Designing a research project, 2nd Edition, published by Eleven International, The Hague.

Vincent, V. and Thomas, R.G. 1960. An agricultural survey of Southern Rhodesia: Part I: agro-ecological survey. Government Printer, Salisbury.

World Bank 2001. Agriculture Technology: Investing in Rural producer Organisation: - Contributing to sustainable Agricultural production.

World Development Report 2008. Agriculture for development. The World Bank, 18184 street, NW Washington DC. 20433.

-JULY Annexes

Annex 1: Analysis of cattle population in Masvingo province0

PROVINCE: MASVINGO NAME OF COMPILER: C/AM BC TIGERE Month/year: Dec-09

area	sector	no of AHMCs in the area	no. of dips	no of stock owners	cattle counts	no dipped	no of births	no of deaths	no. of cattle slaughtered	no moved in	no moved out	sales held	cattle sold	dip type	brf	rec	dip used	issued	b.o.h
Bikita	Comm	14	46	12560	69991	62946	555	0	45	16	30	0	0	0	1512	140	177		1475
Bikita	Res	3	12	1562	12814	12550	67	0	0	2	1	0	0	0	344	0	36		308
Bikita	SSF	3	8	390	5597	5326	29	0	3	0	0	0	0	0	318	75	40		354
Subtotal		20	66	14522	88402	80824	851	0	48	18	31	0	0	0	2175	215	253		2137
Chivi	Comm	7	62	19110	112250	150826	935	353	245	382	212	0	126	0	1045	98	395		758
Chivi	Res	1	7	724	7361	15212	83	17	28	43	53	0	32	0	253	0	48		205
Chivi	SSF	0	0	38	352	620	8	1	0	0	0	0	0	0	0	0	0		0
Subtotal		8	69	19872	119973	164558	1034	371	273	425	267	0	158	0	1298	98	433		963
Chiredzi	Comm	5	52	8707	88885	23294	137	126	36	64	0	0	0	0	516	60	51		525
Chiredzi	SSF	0	1	14	906	0	0	0	0	0	0	0	0	0	105	0	0		105
Chiredzi	Res	1	5	578	6572	0	20	8	0	8	0	0	0	0	69	48	24		93
Chiredzi	A1	2	38	5768	60696	16902	427	50	13	48	40	0	40	0	690	108	75		723
Subtotal		8	96	16067	157062	40198	584	184	61	94	104	0	118	0	796	441	394		843
Gutu	Comm	13	78	24719	137204	165814	641	153	91	151	41	0	60	0	56	47	64		39
Gutu	SSF	2	15	1222	15078	11908	88	48	32	20	46	0	0	0	100	144	78		196
Gutu	RES	1	16	1343	18975	8375	263	33	36	33	57	0	0	0	42	75	45		72
GUTU	A1&A2	6	28	1627	20168	5418	258	39	16	17	25	0	24	0	994	707	581		1120
Subtotal		22	139	28911	191418	191513	1248	271	177	201	169	0	101	0	648	990	62		908
Mwenezi	COMM	8	31	7103	64483	35814	346	330	455	422	382	0	0	0	21	0	3		18
Mwenezi	RES	0	3	581	5538	1200	7	2	5	0	4	0	0	0	570	0	108		462
MWENEZI	A1	8	33	23585	196054	25192	581	215	180	136	244	0	18	0	1581	0	193		1388
Subtotal		14	67	31269	176076	62206	924	547	640	558	630	0	0	0	0	156	21		135
Masvingo	COMM	8	60	12881	76118	60884	314	52	154	0	0	0	0	0	0	0	36		0
Masvingo	SSF	4	27	1465	16167	13376	192	52	95	0	0	0	0	0	0	27	27		0
Masvingo	RES	3	22	2943	22396	14590	154	19	88	0	0	0	0	0	0	22	22		0
Masvingo	A1	1	34	773	10036	7022	49	0	560	0	0	0	0	0	0	241	106		135
Subtotal		16	143	18062	124717	96872	709	123	888	0	0	0	0	0	0	309	309		0
Zaka	COMM	7	69	14973	95438	127979	18	4	9	29	11	4	46	0	0	12	12		0
Zaka	RES	1	1	81	788	788	7	1	3	6	0	0	0	0	0	321	321		0
Subtotal		8	70	15054	96226	128767	20	5	12	35	11	4	46	0	0	0	0		0
GRAND TOTAL		96	670	142757	953870	764036	5180	1501	2059	1331	1212	28	1453	0	6736	1690	1962		6466

PROVINCE: MASVINGO

NAME OF COMPILER:-----C/AH BC TIGERE

Month/year:

Dec-18

area	sector	no of AHNCs in the area	no. of dips	no of stock owners	cattle census	no dipped	no of births	no of deaths	no. of cattle slaughtered	no moved in	no moved out	sales held	cattle sold	dip type	inf	rec	dip used	issued	b.o.h
Bikita	COMM	15	47	12828	71377	81358	434	75	75	29	33	0	36	T	1250	186	200	0	1216
Bikita	RES	3	12	1373	11378	17996	70	0	17	25	6	0	19	I	626	0	68	0	566
Bikita	SSF	3	8	399	5603	8035	79	7	17	0	11	0	3	C	227	0	69	0	158
SUBTOTAL		21	67	14590	88353	107391	583	82	109	64	50	0	58	K	2103	186	337	0	1932
CHIVI	COMM	18	62	18020	114482	190635	1032	323	274	298	281	0	168		0	0	0	0	0
CHIVI	RES	2	7	789	7067	12985	135	4	78	40	86	0	33	B	131	0	46	0	85
CHIVI	SSF	0	0	19	268	491	2	0	0	0	3	0	4	U	0	0	0	0	0
SUBTOTAL		20	69	19708	121817	204391	1169	327	360	338	370	0	203	S	131	0	46	0	85
Chiredzi	COMM	5	52	8368	94838	97447	311	85	74	71	31	0	129	T	46	308	125	0	228
Chiredzi	SSF	0	2	24	1086	1900	15	0	0	0	0	0	0	E	0	12	5	0	8
Chiredzi	RES	1	5	522	6751	0	0	0	0	0	0	0	0	R	0	24	0	0	24
Chiredzi	A1	2	38	8385	65462	98941	597	52	25	63	63	0	47		84	254	153	0	185
SUBTOTAL		8	97	15328	168147	198288	923	137	99	134	94	0	178		129	598	284	0	443
Gutu	COMM	13	78	21212	133585	160068	1075	133	238	118	166	0	36		319	223	411	0	131
Gutu	SSF	2	15	1068	12426	15825	118	19	25	17	17	0	38		20	70	90	0	0
Gutu	RES	1	18	1344	15036	21977	239	28	85	36	172	0	16		77	38	103	0	19
Gutu	A1	6	28	2672	24965	39039	509	62	49	52	40	0	19		13	122	91	0	44
SUBTOTAL		22	139	26326	166802	256906	1941	242	401	222	395	0	113		429	454	695	0	188
Mwenezi	COMM	8	31	7724	60496	123957	457	64	72	116	60	2	53		202	413	178	0	35
Mwenezi	RES	0	3	932	5873	7532	23	0	3	44	8	0	9		45	0	10	0	0
Mwenezi	A1	12	56	5473	95284	241494	709	31	28	48	82	2	68		583	91	186	0	396
SUBTOTAL		20	90	15129	165833	371883	1189	115	101	208	148	4	121		750	502	382	0	870
Masvingo	COMM	16	64	13043	77057	152525	508	48	92	87	94	0	33		35	135	112	0	83
Masvingo	SSF	8	34	1556	17888	34018	154	30	68	17	15	0	0		1	92	63	0	30
Masvingo	RES	7	22	2996	23845	41227	98	13	24	21	45	0	28		12	34	68	0	30
Masvingo	A1	10	25	773	9963	19225	98	9	6	22	31	0	22		50	84	57	0	77
SUBTOTAL		44	145	19258	128783	246995	854	100	188	147	189	0	83		122	396	298	0	228
Zaka	COMM	23	89	0	0	0	542	112	144	278	141	8	0		0	0	0	0	0
Zaka	RES	1	1	95	1220	2427	3	3	6	6	3	0	0		0	0	0	0	0
SUBTOTAL		24	90	95	1220	2427	545	115	150	282	144	8	0		0	0	0	0	0
GRAND TOTAL		167	711	111862	677813	1422399	7358	1148	1464	1402	1409	12	754		3665	2208	2105	0	3768

area	sector	no of AHMCs in the area	no. of dips	no of stock owners	cattle census	no dipped	no of births	no of deaths	no. of cattle slaughtered	no moved in	no moved out	sales held	cattle sold	dip type	bif	rec	dip used	issued	b.o.h	
Bikita	Comm	15	47	12094	76701	105313	345	81	80	66	64	0	26	T	1675.5	293	332	1636.5		
Bikita	Res	3	12	1434	11852	2564	61	17	20	20	22	0	24	I	587	8	77	518		
Bikita	SSF	3	8	389	5586	3456	42	1	29	0	46	0	28	C	118	0	15.5	102.5		
Subtotal		21	67	14787	94139	111323	448	99	129	86	132	0	78	C	2380.5	301	424.5	2267		
Chivi	Comm	18	63	19366	116278	186453	1036	719	227	325	289	0	140	T	289	312	334	264		
CHIVI	Res	2	7	740	7355	13864	31	22	116	68	121	0	108	C	0	0	0	0		
Chivi	SSF	0	0	19	258	506	3	0	1	0	0	0	1	K	0	0	0	0		
Subtotal		20	70	20126	123889	200823	1350	741	346	393	410	0	249		374	312	380	306		
Chiredzi	Comm	5	53	8508	93714	85898	749	403	149	149	68	4	316	C	175	0	166	9		
Chiredzi	SSF	0	2	17	593	954	7	0	0	10	0	0	18	B	0	6	6	0		
Chiredzi	Res	2	5	608	7566	9137	114	25	10	325	17	1	33	C	3	18	15	6		
Chiredzi	A1	2	41	7271	68003	66012	1452	622	276	185	135	1	414	U	124	144	134	134		
Subtotal		9	101	16402	169876	162001	2322	1050	435	669	218	6	761	S	302	168	321	149		
Gutu	Comm	13	78	24869	134675	0	662	143	210	130	154	0	30	C	0	0	0	0		
Gutu	SSF	2	15	1098	11913	0	163	21	34	33	23	0	76	T	0	0	0	0		
Gutu	RES	1	18	1351	16028	0	218	30	33	23	43	0	29	C	0	0	0	0		
GUTU	A1&A2	6	28	2579	23334	0	1295	29	84	56	36	0	0	E	0	0	0	0		
Subtotal		22	139	29897	186950	0	2338	214	361	244	262	0	136	R	0	0	0	0		
Mwenesi	COMM	8	31	7245	62156	117020	517	123	73	95	332	11	190	C	334	105	264	173		
Mwenesi	RES	0	3	943	6646	13476	76	15	14	20	8	0	31	C	45	20	28	31		
Mwenesi	A1	12	57	6925	104183	161816	668	268	135	38	102	17	636	C	438	60	308	190		
Subtotal		20	91	15113	172965	292312	1251	426	222	154	442	28	857		817	185	600	402		
Masvingo	COMM	19	64	13043	78884	207728	617	357	155	177	187	9	108	C	99	165	170	90		
Masvingo	SSF	8	34	1829	18476	26379	153	12	85	40	56	0	53	0	81	72	9	74		
Masvingo	RES	7	22	2986	22660	34621	138	14	53	64	29	0	38	C	21	107	54	74		
Masvingo	A1	10	26	773	11154	22302	145	5	89	104	48	0	156	C	0	54	54	0		
Subtotal		44	146	19531	131474	291030	1053	388	358	385	320	0	358		717	260	422	55		
Zaka	COMM	23	69	17758	104263	208358	515	108	105	350	176	9	79	C	49	10	6	5		
Zaka	RES	1	1	93	1233	2433	3	1	2	0	0	0	9	79		766	270	428	60	
Subtotal		24	70	17852	105496	210789	518	109	107	350	176	9	79							
GRAND																				
TOTAL		160	684	133707	983499	1268278	9280	3027	1958	2281	1960	43	2534		4639.5	1236	2153.5	372		

Annex 2: Questionnaire for small holder beef farmers

Assessment of the **Small Holder Beef Cattle farmers' margins** in Masvingo District Zimbabwe

Name of farmer: _____ 1. Sex: male/female

2. What is your age? _____ < 40 years _____ > 40 years.

3. Location A1 farm A2 farm Communal area Other

4. How many cattle do you raise at any time?

1-5 head 11-15 head

6-10 head 16- 20 head

5. How many years have you been in cattle farming?

_____ < 3 years _____ 11-15 years

_____ 3-5 years _____ > 15 years

6-10 years

6. Where do you market your cattle?

- ☐ at a particular site and transacted by middlemen
☐ at farmer's own farm by middlemen
☐ at farmer's site by consumer/buyer
☐ delivered to consumer
☐ others. Specify _____
7. Who determines prices?
☐ farmer ☐ middlemen ☐ others
8. How are prices determined?
☐ by weight ☐ eye estimate ☐ others
9. Where do you get market information?
☐ from middlemen ☐ from government extension services
☐ from other farmers ☐ from other sources, specify _____
10. What is your income per head of cattle? _____ < \$250 _____ \$251- \$300 _____ \$301- \$350 _____ \$351- \$400 _____ > \$400
11. Are you satisfied with the pricing of your animals?
☐ fully satisfied ☐ satisfied ☐ neutral ☐ less satisfied ☐ not satisfied
12. How frequent do you market your cattle?
 Quarterly _____ every six months _____ once a year _____ when need arise _____.
13. At what age of cattle do you market them?
 Weaner _____ one year _____ two years _____ three years and more _____ not specific _____.
14. Do you agree that traders are important in selling your animals?
☐ strongly agree ☐ agree ☐ neutral ☐ not so much ☐ not agree
15. Are you contracted to any processor? _____ yes _____ no.
16. How often do you get extension support?
☐ frequently visited _____ occasionally visited _____ seldom visited _____ never visited
17. What problems do you encounter when marketing your animals?
 Transport _____ negotiating power _____ cattle prices _____ insufficient market information _____ others _____.
18. How can you become more commercialised in the beef chain to improve profit margins?
 Improved breeds _____ loans _____ extension services _____ marketing system _____ negotiating power _____.
19. What can be done to sustain the beef industry?
 Improved breeds _____ financial support _____ animal health _____ restocking _____ improved markets

Case studies

Interview 1 - Traders/Middlemen

1. Where do you buy your cattle?
2. How many animals are bought at anytime?
3. What is the average cost price of these cattle?
4. Which type of cattle do you buy?
5. Where do you market these cattle?
6. How is market information determined?
7. What is the monthly/yearly income?
8. Who sets the price of the cattle?
9. What are the opportunities and constraints encountered?
10. Where do you get the support?

Interview 2 - Slaughter houses

1. What volumes of cattle do the houses hold at any given time?
2. Where do you get the cattle for slaughter?
3. How is the gender balance?
4. At what cost do you get the animals?
5. What other costs are incurred in slaughtering beef cattle?
6. What is the profit per head of cattle?
7. Where do you get market information?
8. How is the government involved in the slaughter house?
9. Give any comments about the current beef cattle marketing system.

Interview 3 - Supermarkets/ butcheries

1. Where do you get your beef?
2. At what cost do you get the beef?
3. How do you sell your beef and at what price?
4. Who sets the beef price?
5. Who are your customers?
6. How much do you sell per week/ month?
7. How sustainable is the beef industry?
8. Do you have any collaboration with other actors in the chain?

Interview 4- Government Officer (Veterinary department and Livestock division)

1. What services are done to smallholder cattle farmers?
2. How is market information transferred to farmers?
3. What are the current challenges of beef cattle production and marketing in the area?
4. What are the future plans and priorities of the government with regards to cattle marketing?

Interview 5-Cooperative officer

1. What are the available beef cattle structures and marketing facilities?
2. Are the farmers willing to form cooperatives/producer organisations?
3. Is there a possibility of establishing a formal market in the beef industry? What would be the opportunities/ constraints?

Interview 6 - Beef consumers

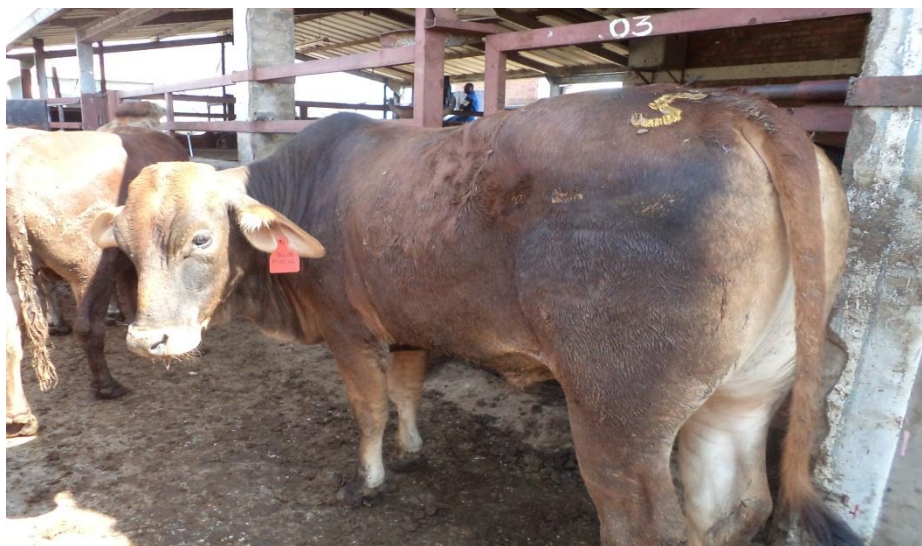
1. Where do you get your beef?
2. Which criteria do you use to buy the beef?
3. How frequent do you consume beef?
4. Do you consider source of beef? Why?

Annex 3: Condition of animals at marketing.

Cattle ready for slaughter in bad condition - from communal areas



Cattle ready for slaughter in good condition - from feedlots



Photographed at Montana Slaughter Pens Masvingo - Zimbabwe on 6/08/12

Annex 4: Tables showing statistical analysis on cross tabulation

1. Comparison of age and number of cattle held.

Case Processing Summary							
How many cattle do you raise?		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
What is your age?	1-5 heads	8	100.0%	0	.0%	8	100.0%
	6 -10 heads	4	100.0%	0	.0%	4	100.0%
	11 -15 heads	4	100.0%	0	.0%	4	100.0%
	16 - 20 heads	14	100.0%	0	.0%	14	100.0%

2. Comparison of income earned versus location

