

LINKING GURUVE SMALLHOLDER EGG PRODUCERS TO HIGH PRICE MARKET SEGMENTS



Thesis submitted in partial fulfilment of the requirements of the Degree of Master in Agriculture Production chain management, specialisation in Livestock Chains

JONATHAN RUSIREVI
Van Hall Larenstein University of Applied Sciences
The Netherlands
September 2013



© Copyright Jonathan Rusirevi, 2013. All rights reserved

Acknowledgements

I am very grateful for the support that I received during my master study and would like to acknowledge the guidance and contribution of my supervisor Marco Verschuur during this study. I would also like to acknowledge the immense contribution of Mr Admire Mbundure the Chief smallstock specialist in the Division of Livestock Production and Development and the Director Mr Bothwell Makodza who availed resources in support of the data collection phase of this thesis.

I would like to also extend sincere gratitude to the smallholder producers in Guruve district for their support and participation in this study through attending focus group discussions in their respective wards. Thanks to the dedicated staff of Van Hall Larenstein and Wageningen UR. I cannot forget the Master students in Agricultural production chain management both livestock and horticultural 2012-13 classes, Omary Nkullo, Pickett Chimbwa, Trust Shumba, Tendai Matekenya and other international friends for their support, encouragement and friendship during the study period.

I would also like to express gratitude to the Nuffic Fellowship Programme (NFP) for their financial support during the period. Finally, to my family, my wife Mercy Muvazhi and son Nenyasha Rodney and daughter Titti, I am eternally grateful for your unwavering support and faith in me during my one year absence missing family gatherings. I truly love you so much my family. To the almighty God the creator, for the enormous strength and goodwill, I am ever thankful. Glory and honour be unto you, Let your name be praised forever and ever.

Dedication

I dedicate this work to HIM the almighty GOD who gave me the strength to carry out this course to the end without any hindrances. Also to my wife Mercy Fungai Muvazhi you are virtuous, your support, resilience demonstrated that you are a gift from above.

Table of Contents

Acknowledgements.....	I
Dedication.....	II
Table of contents.....	III
List of tables	V
List of figures.....	VI
List of abbreviations	VII
Abstract.....	VIII
CHAPTER I: INTRODUCTION.....	1
1.1 Country in brief	1
1.2 The livestock sector	1
1.2.1 Livestock product demand	2
1.2.2 Egg subsector	2
1.2.3 Egg production systems	3
1.2.4 Egg production and marketing in Guruve district	4
1.3 Problem statement	6
1.4 Research objective	6
1.5 Definition of terms	7
1.6 Organization of thesis	8
CHAPTER 2 LINKING FARMERS TO MARKETS.....	9
2.1 Equilibrium trap of smallholder farmers.....	9
2.2 Value chain concept	10
2.3 Qualitative overlays	12
2.4 Quantitative overlays	14
2.5 Business model canvas	15
2.6 Marketing mix used by retailers	16
2.7 Porters five force analysis.....	18
2.8 Opportunities for linking smallholder farmers to the market	18
CHAPTER 3: RESEARCH METHODOLOGY	23
3.1 Study area	23
3.2 The Case study	24
3.2.1 Data Collection.....	24
3.2.2 Data processing and analysis	26
3.2.3 Limitations of the study	26
CHAPTER 4 DYNAMICS OF THE SMALLHOLDER EGG CHAIN IN GURUVE.....	27
4.1 Focus group discussions with farmers	27
4.1.1 Stakeholders in the smallholder egg value chain	27
4.1.2 Chain mapping.....	31
4.1.3 Value shares of actors in the smallholder egg chain in Guruve district	32
4.1.4 Identifying chain relations.....	32
4.1.5 Compiling Business canvas Model.....	33
4.1.6 Major problems faced in egg marketing.....	39
4.2 Egg chain stakeholders interviews.....	40
4.2.1 Interview with the Branch manager OK Zimbabwe Chain Retail supermarket	40
4.2.2 Interview with Zimbabwe Poultry Association chairman	41
4.2.3 Interview with Guruve egg collection centre	42
4.2.4 Interview with Large scale egg producer	43

4.2.5 Interview with Guruve hotel	44
4.3 Level of competitiveness of the smallholder egg value chain	45
4.4 Consolidated Swot Analysis for the egg value chain in Guruve district	45
CHAPTER 5 OPPORTUNITIES FOR MARKET LINKAGES	47
5.1 Market Relations	47
5.2 Revenue streams when supplying different channels	47
5.3 Cost structure and risks	48
5.4 Information flow	48
5.5 Gender aspects	48
5.6 Product quality attributes	49
5.7 Business arrangements preferred in the high price segments	49
5.8 Strategies used to promote eggs in the chain	49
5.9 Value chain development	49
CHAPTER 6. CONCLUSIONS AND RECCOMENDATIONS.....	51
6.1 Conclusions.....	51
6.2 Recommendations.....	52
REFERENCES.....	56
ANNEXES.....	60

List of Tables

Table 1.1 Agro ecological zones and the recommended farming systems in zimbabwe	1
Table 1.2: Annual per person livestock consumption	2
Table 1.3: Summary of questions and sources of data	8
Table 4.1: Stakeholder matrix of the smallholder egg value chain in guruve district.....	29
Table 4.2: Cost structure for smallholder egg producers in guruve district	36
Table 4.3: Producers revenue streams.....	37
Table 4.5: Problems faced in marketing eggs by smallholder producers in guruve	39
Table 4.6: Marketing mix used at the egg collection centre in guruve	43
Table 4.7: Swot analysis for the smallholder egg value chain in guruve	46
Table 5.1: Comparison on value shares structure when selling through different channels ..	47

List of Figures

Figure 1.1 Estimated total production of eggs based on chick sales 2009 to 2012	2
Figure 1.2: Smallholder egg production system	3
Figure 1.3: Guruve smallholder egg value chain map	5
Figure 2.1 Rural low level equilibrium trap and challenges in overcoming it.....	9
Figure 2.2: Model of an egg value chain map	11
Figure 2.3: Market interactions matrix	12
Figure 2.4: Business model canvas overview	15
Figure 2.5: Business model canvas elements in detail	15
Figure 2.6: Marketing mix tool	17
Figure 2.7: Porters five force model analysis	18
Figure 2.8: Upgrading strategies	19
Figure 2.9: The role of institutions and infrastructure in linking smallholder producers to markets and in integrating heterogeneity	20
Figure 3.1: Map of mashonaland central showing the position of guruve	23
Figure 3.2: Participatory discussion, chain mapping, compiling business model canvas and venn diagram.....	25
Figure 4.1: Stakeholders in the smallholder egg value chain in guruve district.....	31
Figure 4.2: Guruve smallholder egg value chain map	32
Figure 4.3: Distribution of value shares among actors in the egg chain	32
Figure 4.4: Venn diagram showing actors and chain relations	32
Figure 4.5: Layer houses an important indispensable physical infrastructure for smallholders	35
Figure 4.6: Shrink wrapped eggs in ok retail chain supermarket	41
Figure 4.7: Egg collection centre in guruve	43
Figure 4.8: Guruve hotel one of the institutional markets.....	45
Figure 4.9: Porters five force model analysis	45
Figure 6.1:BS 400 shrink wrapping machine and moba 68 grading machine suitable for smallholder egg producers.....	53

List of abbreviations

AEW	- Agricultural extension worker
AGRIBANK	- Agricultural bank of Zimbabwe
AGRITEX	- Agricultural technical and extension services
DOC	- Day old chicks
FAO	- Food and agricultural organisation
GDP	- Gross domestic product
GMO	- Genetically modified organisms
IFAD	- International fund for agricultural development
LEW	- Livestock extension worker
LPD	- Livestock Production and Development
MAMID	- Ministry of agriculture mechanisation and irrigation development
MFC	- Marginal factor costs
MVP	- Marginal value product
NGO	- Non Governmental organisation
NR	- Natural region
PO	- Producer organisation
POL	- Point of lays
SAZ	- Standards association of Zimbabwe
SME	- Small and medium enterprises
USDA	- United states department of agriculture
ZIMRA	- Zimbabwe revenue authority
ZIMSTATS	- Zimbabwe national statistics offices
ZPA	-Zimbabwe poultry association

Abstract

Agriculture remains the mainstay of the economy of Zimbabwe providing income to 75 percent of the economy and contributing 40 percent of earnings from exports. Livestock commodity outputs also contribute 25% to agricultural output in all farming systems in the country. Egg production is an integral part of the smallholder mixed crop livestock farming system of most rural households as it provides an opportunity of increased income and protein. In recent years the country implemented a number of reforms including structural adjustment market oriented reforms. This coupled by increasing per capita incomes, urbanization and rising population ushered in a new era in terms of new market regimes, market players, market relations, market opportunities for livestock products and marketing channels of agricultural services, outputs and inputs. However smallholder egg producers remain in the low level equilibrium trap i.e. they lack the capacity to improve and influence the markets which they depend on. Poor infrastructure separates them from the growing market opportunities for example.

The objective of the study was to identify value chain constraints of the smallholder egg value chain which involves 450 communal farmers in ward 6,7,8,9 and 22 of Guruve through value chain analysis and to come up with a sustainable innovative market based business model that enhances access or linkages to high market segments in formal domestic markets such as institutions and retail supermarkets and increase appropriate return on investment in egg production and therefore increased income. A number of approaches and participatory appraisal tools were used to identify the constraints including participatory workshops or focus group discussions, value chain mapping and venn diagram to map the chain relation, interviews with stakeholders in the egg value chain and business model canvas to.

The general findings show that smallholder egg farmers in Guruve are not organised in the market i.e. there is no market collaboration and they have weak relations and inadequate alliance with stakeholders in the egg chain. They face high production costs from livestock inputs such as feed, day old chicks and transport costs. There is information asymmetry resulting from lack of co-ordination in the chain with end market on prices, quality and quantities which is important information for the farmers. Intrahousehold bargaining or relationship practises tend to increase with intensification although both men and women had equal opportunities to resources.

The high price market segment i.e. the chain retail supermarkets such as Ok have their own procurement requirement in terms of consistent supply in egg quality and quantities and so farmers have to upgrade their eggs to improve their acceptability. Considering these opportunities value chain upgrading strategies such as product and process upgrading are required to improve egg quality to enable linkages to the high price market segment. Smallholder factors need to collectively market their eggs through a producer organisation as market linking strategies for increased co-ordination of activities to will enable or guarantee product quality and quantity and enhance the design of market strategies, ensuring that the quality of eggs is in line with the standards demanded in the high market segment and reduce transactions costs. This will also presents an opportunity for branding improving the image of the farmers on the market and protecting the product. Collectively investment in grading and shrink wrapping equipment to improve unit value through the egg producer organisation will enhance access to the high price market segment.

CHAPTER I: INTRODUCTION

1.1 Country in brief

Zimbabwe is a landlocked country located in the Southern part of Africa lying between 15 33 S and 22 24 S latitudes and 25 12 and 33 03 longitudes. The country has ten provinces with a population estimated at 13,5 million people and a literacy level of 91% (Zimstats, 2013). The total land area of Zimbabwe is 390 757 square kilometers. It is bordered in the north Zambia, in the east Mozambique, in the south with South Africa and Botswana to the West. The climate is tropical with four distinct seasons and so temperatures varies in terms of elevation from one season to the other. There are five agro ecological zones in Zimbabwe as shown in table 1 below, known as natural regions according to difference in effective annual rainfall or rainfall regime, soil quality and vegetation among other factors (USDA, 2004).

Table 1.1 Agro ecological zones and the recommended farming systems in Zimbabwe

NR	Area (km ²)	Rainfall (mm yr ⁻¹)	Farming system
I	7 000	>1 000	Specialised and diversified farming
II	58 600	750 – 1 000	Intensive farming
III	72 900	650 - 800	Semi-intensive farming
IV	147 800	450 - 650	Semi-extensive farming
V	104 400	<450	Extensive farming

(source: USDA, 2004)

1.2 The livestock sector

Agriculture remains the mainstay of the economy of Zimbabwe providing income for about 70 percent of the population and contributing over 40 percent of national earnings from exports and providing 60 percent raw materials for agro-industries (MAMID, 2012). Despite the high employment in this sector, it directly contributes only 15-19 percent to annual GDP of the country (Government of Zimbabwe, 2010). This is a statistic that understates the true importance and dominance of the agriculture sector. Livestock commodity outputs contribute 25% to the total agricultural outputs from all farming sectors (FAO, 2004). Zimbabwe in the last two decades has undergone structural adjustment market oriented reforms, growth with equity and the land reform programme that was carried out by the Zimbabwe government. The emergence of new players into the livestock sector because of the land reform had an impact on the outlook of the smallholder livestock supply chains in Zimbabwe (Mujeyi, 2010). The implementation of new policies under the land reform programme however ushered a new era in terms of livestock markets, market relations and opportunities and marketing channels for agricultural services, livestock inputs and outputs. In Zimbabwe the strategic livestock commodities include an estimated 5.2 million cattle, 397 thousand sheep, 3.2 million goats, 202 thousand pigs, 38 thousand dairy cattle and several millions of poultry (LPD, 2011).

1.2.1 Livestock product demand

Of the \$745 annual per capita expenditure in Zimbabwe during 2011-2012 food accounted for \$246 (33%) of which \$74 (30%) was spent on animal products (ZIMSTATS, 2013). Beef accounted for most money spent on livestock products as 35% of the total, followed by poultry products 32%, fish products 17%, milk products, 3%, sheep and goats 2% with expenditure on game meat at 0.2% (ZIMSTATS, 2013). In Zimbabwe protein consumption from animal products remain low, only 9kg meat products are consumed, about 3.5 dozen eggs and 1.6 litres of liquid milk as indicated in table 1 below.

Table 2: Annual per person livestock consumption

PRODUCTS	RURAL	URBAN	ALL	% of Meat Consumed
Beef (kg)	2.04	9.14	4.30	48%
Chicken (kg)	1.53	8.27	3.69	41%
Pork (kg)	0.14	0.73	0.33	4%
Fish (kg)	0.44	1.13	0.66	7%
Eggs (dozens)	3.45	3.69	3.53	
Fresh and Sterilised Milk (litres)	0.67	3.47	1.56	

(source :Zimstats 2013 poverty income and expenditure survey)

1.2.2 Egg subsector

The current laying flock is estimated to be around 2.4 million layers and table egg production is estimated to be around 517 thousand dozens per week in the formal sector alone.(LPD, 2011). Day old chick production in Zimbabwe has shown tremendous recovery from an all-time low of 1 million birds in 2002 to around 2.5 million birds per annum attributed to the adoption of the multicurrency system in 2009 in the country. Total table egg production based on chick sales is believed to be rising as shown in figure 1.

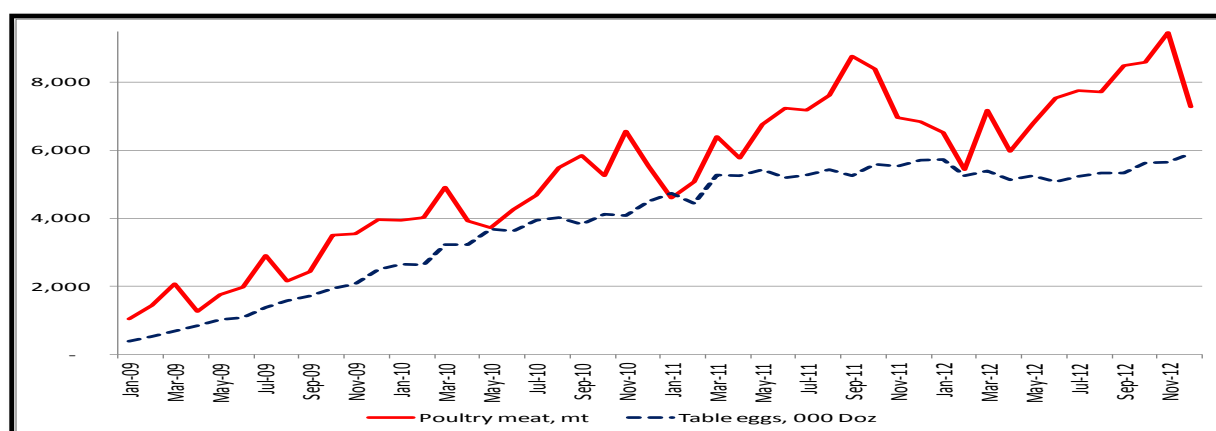


Figure 1.1 Estimated total production of eggs based on chick sales 2009 to 2012 (Source: ZPA, 2012)

1.2.3 Egg production systems

According to Sukume (2011), Zimbabwe's egg production is undertaken in roughly four size classes – large-scale fully integrated operations, large-scale semi-integrated, medium scale and smallholder. These are described as follows:

Large scale fully integrated egg producers: There are four large scale vertically integrated producers (with over 50 000 layers in a cycle) in Zimbabwe including Irvines, Suncrest, Lunar chickens and Ostrindo. They have high integrated operations, including own feed manufacturing and supply, commercial breeding with maintained breeding lines, processing, marketing and distribution targeting major retail chain supermarkets. They are highly mechanised characterised by, intensive management, huge capital investments and their operations have advantage over medium and small scale producers in that they have economies of scale, and can ensure better feed and day-old chicks availability at a lower price (Sukume, 2011).

Large scale semi integrated egg producers: (With around 10 000 layers) they do not have own breeding facilities or operations but to an extent have own farm feed mills, and import feed and feed ingredients and so have control over their feed and processing costs. They also market their eggs to retail supermarkets in urban areas and urban centres mainly on contractual basis.

Medium scale egg producers: Medium scale producers in the country with layer flock sizes between 1000 and 2000 per cycle include non-vertically integrated farms. These farmers purchase their inputs on the open market and have home grown crops such as maize and soya which is used as feed ingredients to cut on costs.

Smallholder egg producers: Most smallholder farmers (communal, old resettlement and A1) keep an average of 20 to 200 layers per cycle under a low input output system sometimes on free range or backyard dominated by both exotic and indigenous breeds of layers. The main differences in the smallholder operations is the level of attention given to management issues like housing, warmth or lighting, bedding and nutrition and the degree of market orientation (Government of Zimbabwe, 2005). The smallholder egg production system has not attracted much support and investment and is characterised by low egg production, diseases etc.



Figure1.2: Smallholder egg production system (Source: FAO, 2010)

1.2.4 Egg production and marketing in Guruve district

The research seeks to gain insight into the value chain constraints which egg smallholder producers in Guruve district find difficult to overcome on their own and also to identify opportunities or linkages in the growing livestock products markets against a backdrop of ever changing market environment and requirements. The result of the research will be contributing to effective strategies within MAMID (Agriculture mechanisation and irrigation development) to enhance inclusion and competitiveness of egg smallholder producers for increased income and poverty reduction.

Agriculture in Guruve is entirely dependent on rains and poultry production is an integral part of the mixed crop livestock farming system of most rural households. Of the district's 20 000 scattered households 95 percent own poultry or any other form of poultry at varying scale of production (Moyo, 2009). Both men and women are involved in egg production. Poultry provides a major opportunity for increased protein and sustainable income among the smallholder farmers in Guruve because of the following factors, small generation interval, high rate of productivity, the ease with which poultry products such as eggs can be supplied to different areas, minimal association of poultry with religious taboos and the complimentary role poultry play in relation to other crop and livestock activities (Government of Zimbabwe, 2005).

Most of these smallholder farmers in Guruve who keep poultry a minority of households are engaged in commercial egg production because of limited know how, low marketable outputs and limited markets (FAO, 2010). There are a number of other challenges to smallholder egg production in the district. Chief among them is limited supply of day old chicks, stock feeds and drug suppliers are located in the main centre of Guruve making it difficult for rural farmers to get what they want and whenever they need them. Urban egg markets are not always the best option for smallholder farmers in the low level equilibrium trap as they involve extra transport costs and packaging, commission and selling points (FAO, 2010). High prevalence of diseases such as new castle disease resulting in layer mortalities of up to 90%, predation poor housing, poor nutrition, high costs of drugs are some of constraints affecting egg production in Guruve district (LPD, 2011).

Demand for Eggs in Guruve: Guruve district of Mashonaland central province of Zimbabwe has a mixed population which can be characterised into three main social groups i.e. high, middle income and the low income. These income groupings are also assumed to define the residence of these social groupings i.e. the high and middle income reside in the main urban centre of Guruve district and the low income groups mainly from the communal areas. A change in the urban dietary preferences driven by high incomes is the major driver for increases demand for poultry and poultry products (Hazel, 2010). A number of institutions such as Guruve hospital, hotels and lodges, boarding schools, retail supermarkets and wholesalers are found in the urban centre which provide a market for eggs while day primary and secondary schools are located in the communal areas.

Marketing channels: Most of the eggs marketed in Guruve are channelled through the traders who use their own transport to collect eggs from the smallholder farmers. Commercial farmers are able to channel their products direct to the wholesalers and chain retail supermarkets in Guruve urban centre and the surrounding areas such as Mvurwi. Direct producer to consumer selling mainly farm gate sales although this channel has low of

marketed volumes. Eggs in all the channels are being marketed at the same price irrespective of their sizes as indicated in figure 1.3.

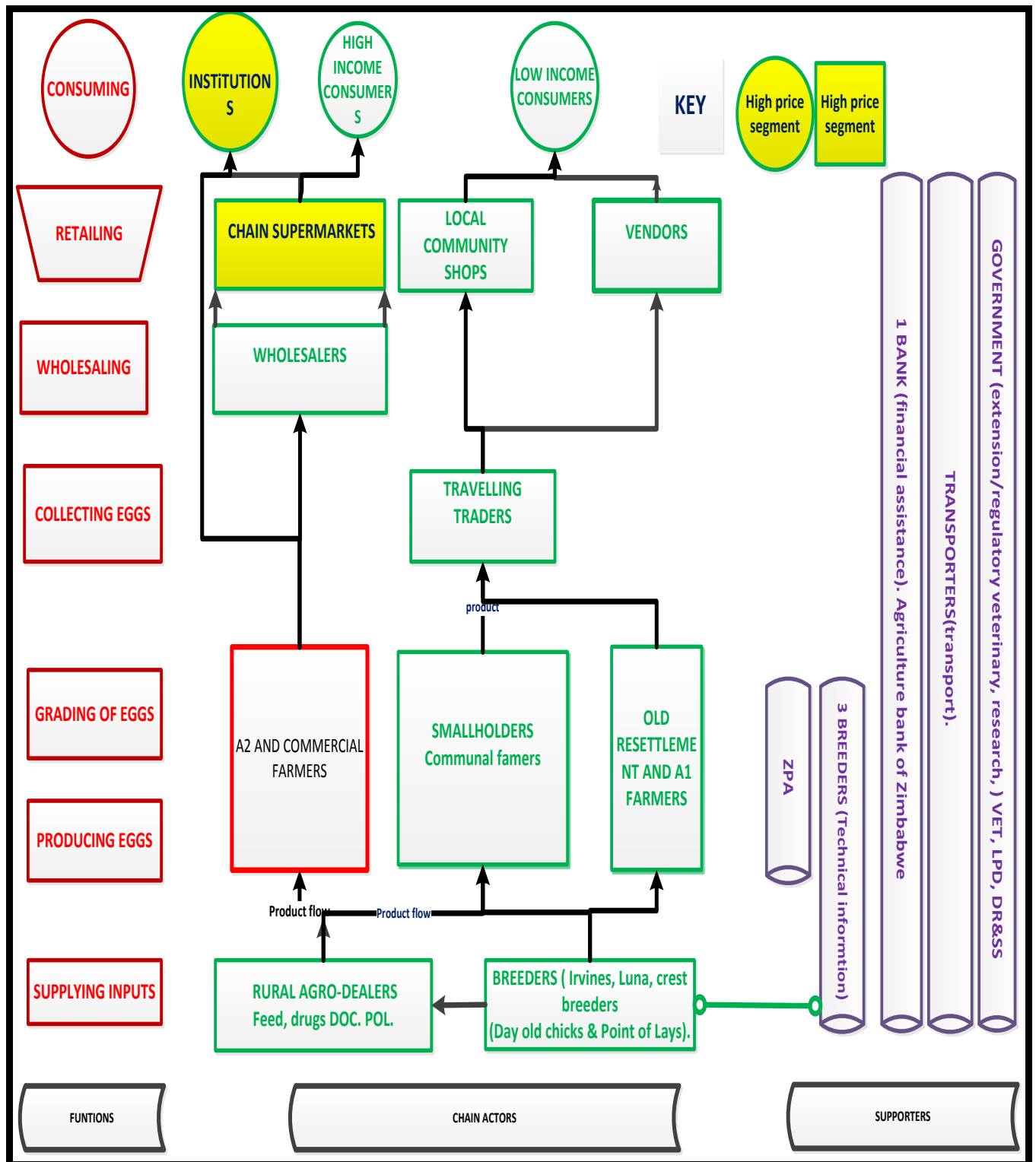


Figure 1.2: Guruve smallholder egg value chain map

1.3 Problem statement

Smallholder egg producers are currently faced with reduced sales of eggs due to high cost of production and limited market opportunities. They end up trading mainly in the lower price and quality market segment as the buyers discount product price to cover for the increased transaction costs resulting in reduced income.

Key words, egg production, smallholder farmers, high price market segments,

1.4 Research objective

- To analyse the smallholder egg value chain in Guruve district in order to come up with a new business model for linkage to high price market segments.

Main research questions

1. What are the dynamics in the smallholder egg value chain in Guruve district?
2. Which market linking strategies can be adopted to enable access to the high price market segments of the chain?

Sub questions 1

- 1.1 What are the market relations with downstream actors in the egg value chain?
- 1.2 What are the revenues, costs and risks transmission among the actors in the egg value chain?
- 1.3 How is market information on outputs (quality, volume and price) for the end market flow in the egg value chain?
- 1.4 What are the gender based constraints in the smallholder egg value chain?.

Sub questions 2

- 2.1 What are the quality attributes/requirements of eggs preferred in the high price market segments?
- 2.2 What are the strategies used to promote eggs in the value chain?
- 2.3 What is the marketing organisation of the egg producers in the supply base?
- 2.4 What are the marketing arrangements, terms and understanding preferred in the high price markets segments?

1.5 Definition of terms

The following terms were regularly used and their contextual definitions are as follows

Smallholder farmer; Cousins(2010) defines a smallholder farmer as a producer who occasionally sells products for cash as supplement to other sources of income, to those who regularly market a surplus after their consumption needs have been met; and those who are small scale commercial farmers with a primary focus on production for the market.

Syngenta (2013) defines small holder farmer as a small scale and subsistence level farmer in resource poor conditions operating with few purchased inputs and limited technology. For the purpose of the study Cousin's definition of a small holder farmer has been adopted.

Low level equilibrium trap; Per capita income is low, savings and investments remain very low and farmers do not have the capacity to improve and influence their markets.

High price market segment: Aggregate of prospective buyers with the same needs who perceive the full value of a product similarly and respond in the same way and are willing to pay for high price for service or product.

Linkage: (horizontal or vertical linkages) A business relationships and interactions between tasks and functions or organisations that exist between two parties of a value chain that promote the flow of information, products or integration in achievement of shared objectives.

Market access: Increased opportunity to market outputs regularly at acceptable prices and with increased opportunity to buy quality inputs and services at acceptable prices and results in market participation by smallholder farmers.

Producer organisation: An economic organisation that improves smallholder producers to collaborate, coordinate to archive economies of scale in their transaction with suppliers of inputs, buyers, access inputs, information channels and raise level of knowledge in agricultural skills and value addition.

Institutional markets: Markets provided by public and private institutions which include schools, hotels, hospitals for example.

Market Institutions: Organisations or structures that govern market relations within the market environment.

Collaboration: the deliberate association or joining together of two or more actors in the value chain with the aim of optimising operations in the form of alliances, joint ventures or other formal or informal relationship.

Table 3: Summary of questions and sources of data

Questions	Details	Source
Main Question 1	What are the dynamics in the smallholder egg value chain in Guruve district?	
Sub questions		
1.1	What are the costs, risks and price transmission among the actors in the egg value chain?	FGD/ interviews
1.2	How is market information on outputs (quality, volume and price) for the end market flow in the egg value chain?	FGD/ interviews
1.3	What are the market relations with downstream actors in the egg value chain	FGD/ interviews
1.4	What are the gender related constraints in the smallholder egg value chain?	FGD/ interviews
Main Question 2	Which marketing strategies can be adopted to enable access to high market segments in the chain?	FGD/ interviews
Sub questions		
2.1	What is the quality attributes preferred in the high market segments?	Interview
2.2	What are the strategies used to promote eggs in the chain for the high income market segments?	Interview
2.3	What is the marketing organisation of farmers in the supply base?	FGD/ interviews
2.4	What are the marketing arrangements preferred in the high markets segments?	Interviews

1.6 Organization of thesis

This thesis consists of six chapters. Chapter one is the introductory chapter, consisting of background, problem definition, study objectives and the research questions. The second chapter presents the literature and theories on opportunities for linkages to markets. The study areas Guruve and explanation of the methodologies used during the study are presented in Chapter three. The results of the study are presented in chapter four. Chapter five provides a general discussion on opportunities for market linkages for the smallholder egg farmers. Conclusions that are drawn from the study and conclusion with recommendations are presented in Chapter six of the document.

CHAPTER 2 LINKING FARMERS TO MARKETS

This chapter was to build concepts on the marketing of eggs from the smallholder sector of Gurube using a value chain approach at the backdrop of the ever changing market environment and requirements. The thrust is to identify value chain constraints and market opportunities and to come up with a business model that can enhance the position of smallholder farmers and link to the higher market segments such as retail supermarkets and institutions and deliver maximum value for the least possible total costs in the ever changing market environment.

Value chains provide a valuable visual, analytical and diagnostic tool for identifying viable, remunerative incoming earning opportunities for smallholders producers in the rural developing countries. Farmers allocate resources according to relative returns realised from producing for the market or for home consumption (Orr et al, 1999). Thus apart from meeting mostly their subsistence needs, engagement and level of involvement of smallholder producers in agricultural enterprises responds to existing market opportunities.

2.1 Equilibrium trap of smallholder farmers

Poor rural areas in Sub Sahara are characterised by low total and monetary incomes for most people with limited consumption and expenditure, a poorly developed monetary economy with a narrow base and markets (inputs, outputs, finance and services) that's are relatively thin, prone to seasonal variability and demand (Poulton et al, 2006). These conditions however coexists normally with poor infrastructure, poor agriculture information systems, declining prices, high transaction costs and numerous risks, poor co-ordination of market activities resulting in low level equilibrium traps and low investment. The Gurube smallholder egg value chain is deeply embedded in such a situation as farmers lack the capacity to improve and influence their markets which they depend on.

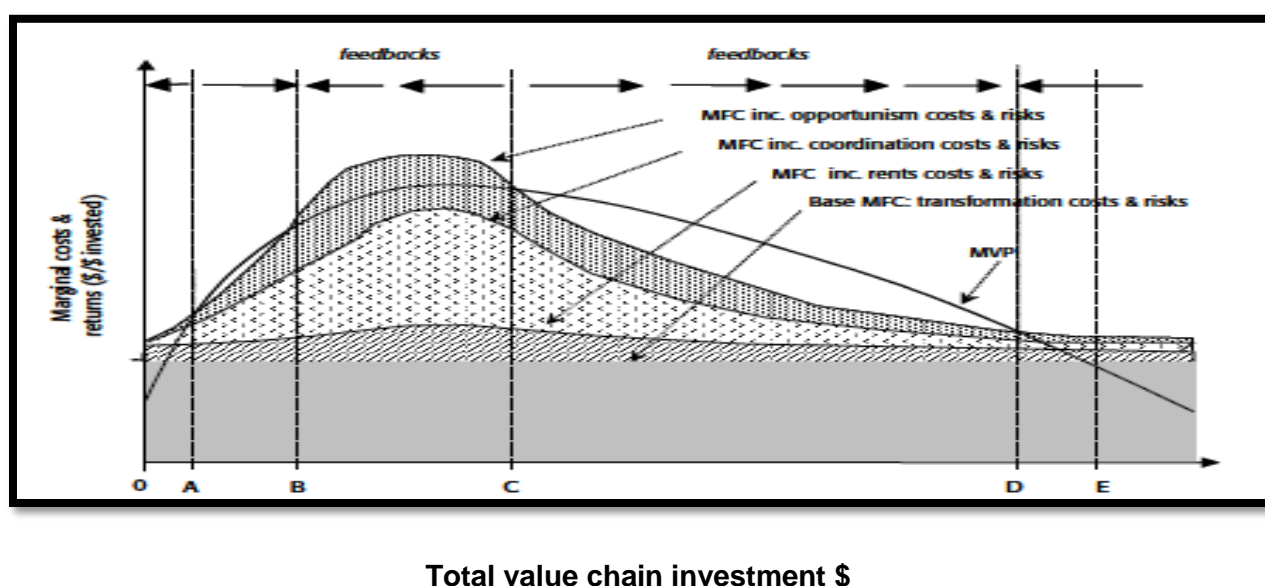


Figure 2.1 Rural low level equilibrium trap and challenges in overcoming it (source: Poulton, et al, 2006)

The co-ordination failure along the smallholder value chains may explain the experienced slow and constrained agricultural development and the prevalence of a low equilibrium trap which is also a big challenge to agricultural policies in developing countries (Kelly, 2003). The situation set out in figure shows marginal factor costs (MFC) and marginal value products (MVP) for total investments along a value chain (including, for example, input sellers, providers of farm finance, farmers, and produce traders). The shape and position of the MVP is determined by price and technology used, the higher the price and technology the curve moves up while high investments reduce MVP due to diminishing marginal returns and falling prices in limited markets. The third cost and risk bands represent co-ordination and risks and costs which are high with low investment and thin markets such as in Gurube district.

This analysis explains individual choices around a stable low-level equilibrium in smallholder farming areas with an atomistic market of many small players without non-market coordination or significant efforts towards collective action (Poulton et al, 2006).

2.2 Value chain concept

Value Chain: A value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production, (involving a combination of physical transformation and the input of various producer services) delivery to final consumers, and final disposal after use (IFAD, 2010). Value chain analysis is a tool to enhance competitive strategy in a business.

The smallholder egg value chain of in Gurube district qualifies to be a value chain because it is made up of input suppliers, producers, traders or wholesalers, retailers and consumers with strong linkages.. The value chain approach has been used to analyse the smallholder egg value chain and to come up with sustainable entrepreneurship strategies for producers to link up with high price market segment.

Value chain analysis: This maps the activities of the different actors involved in production, processing, wholesaling, and retailing of a particular product and assists in identifying the distribution of benefits of actors in the chain through the analysis of margins and profits. The resultant value shares reflects the amount of costs and risks that an act will have put into the chain. The understanding the dynamics and domains of the value chain analysis such as the institutional set up, economic, functional analysis, output market will help in coming up with a desired market structure and to come up with innovations that help in overcoming market entry barriers. The socio-economic impacts i.e. sustainability issues can be identified through value chain analysis. This can be gathered through interviews, surveys or group discussions with the different actors of the chain. A number of participatory approaches can be used in value chain analysis which involve workshops and focus groups as well as incremental approaches that limit initial analysis

VALUE CHAIN MAP SHOWING DIFFERENT ACTORS

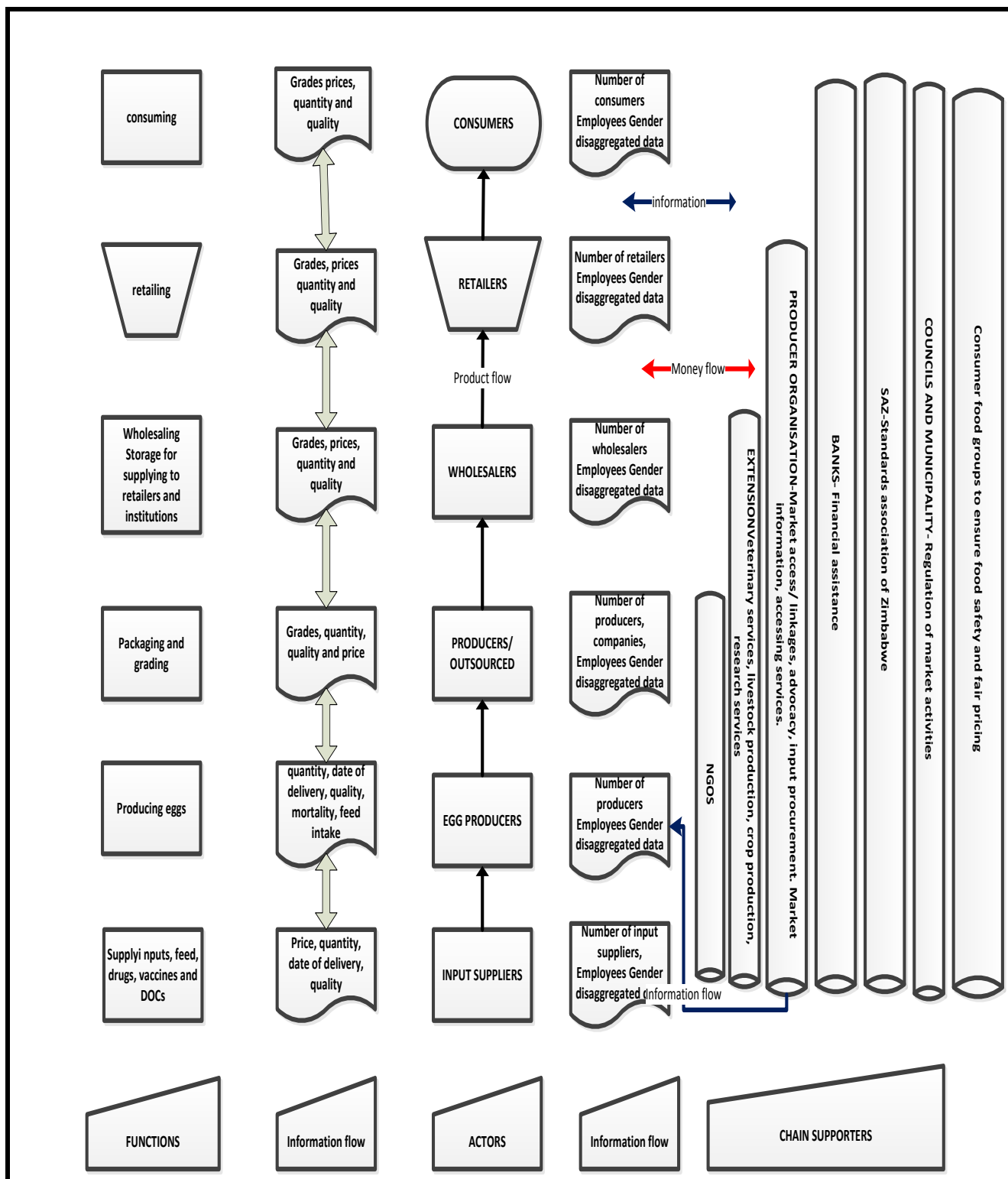


Figure 2.2: Model of an egg value chain map

2.3 Qualitative overlays

Chain actors: These are individuals or groups who directly own or deal with the products, i.e. produce, process, trade and own the product as it added value along the chain. They include: input suppliers, producers, traders, wholesalers and consumers of the product such as eggs in this case.

Value Chain supporters: These are public or private companies that provide financial business or non-financial business to the various chain actors but never directly deal with the product and whose services are essential in adding value to the product. These include transporters, processors, local government, local organisations farmer associations, banks and nonbanking financial institutions. Their services include market regulations capacity building, access to market information on production as well as value chain finance.

Chain relations or market relations: Strong chain relations are characterised by strong organizations, trust, open and frequent communication and cooperation for mutual growth (KIT and IIRR, 2008). Moreover strong chain relations will help parties to reduce the costs and risks that they are facing in their business. It enables joining forces in tackling issues of common interest like expanding the market, service provision improving the quality of the product. Chain relations enhances specialisation of roles in the value chain and so benefit all stakeholders. Strong chain relations can foster chain partnership (KIT and IIRR, 2008) in sharing vision through long term business relationships with formal contracts to jointly work on scaling up as shown in the market interactions mix in figure below

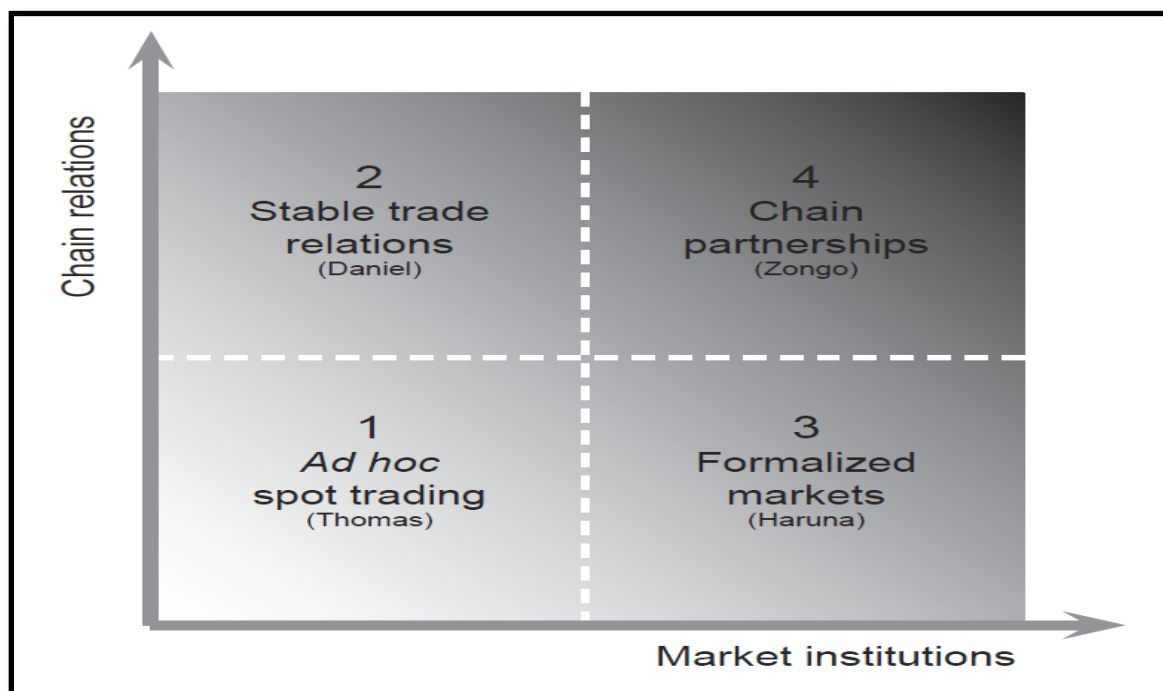


Figure 2.3: Market interactions matrix (source: KIT and IIRR, 2008)

Information flow: Market information is important to market participation behaviour of smallholder producers such as the egg farmers in Guruve. Farmers require necessary information on prices, product specifications as well as time of delivery, quantity demanded, as required and opportunities in the market. Van de Vorst (2001) posits that it is important to recognize the key information system issues to chain management for efficient flow of

physical products, information and money for a transparent and successful value chains. Information flows in both direction from input suppliers to consumers i.e. bidirectional Communication and information sharing is a vital chain coordination mechanism that also contributes to reduction of transaction costs leading to greater chain operational efficiencies (Kotabe *et al.*, 2003). Montshwe (2006), argued that smallholder farmers have difficulties in accessing market information, exposing them to a marketing disadvantage. Without market information farmers cannot hope to become successful entrepreneurs (Schalkwyk *et al.*, 2012) .

Quality control and traceability: Quality control is an important part of the value chain and emphasis is given to quality aspects in order to meet, improve or exceed customer expectations. Overall quality measures vary from managing quality design, quality control and maintenance, quality improvement and quality assurance at all levels in the value chain. Quality however brings about specific governance problems in value chains. Quality management systems and product branding help in enhancing traceability in value chains.

Quality attributes of eggs: Measurement of egg quality preferences can provide one of the greatest means to understanding the basis for customer satisfaction. When such preferences are associated with identified egg quality attributes, they are useful in the quest for continuous product quality improvement so as to meet and exceed customer expectations. Quality according to Hutchings (2002) argues that which directs food selection and it is governed by the total appearance of the product and the utility expectations derivable from its utilization. Quality is central to grading and classification system of shell eggs and is the most important price contributing factor and is also influenced by handling, nutrition and storage. The attributes includes shell color, size and weight. Hutchings (2002) stated that total size and appearance generates expectations of egg consumers.

Risks along the value chain: Singh (2002) concludes that farmers face diseases and pests, input costs, access to knowledge and extension which firms have to be aware of for the contract relationship to be successful. Besides this farmers are faced with production risks emanating mainly from environmental factors that are in the form of climate change which has affected production of crops such as maize used as feed ingredients by farmers for example in Gurube district. As a result of these production risks and the low return production cycles many financial institutions are hesitant to work with smallholders as they are regarded as risk averse.

Market access and risks: The most important challenge faced by smallholders is the lack of an assured market with fair price (Eaton and Shepherd, 2001). In accessing to new markets the distribution of risks and gains along the value chain is an important aspect in market focused collaborations especially in a rapidly changing business environment. Access to markets and distribution of risks and gains along different steps of livestock value chains varies also according to the gender of producers (e.g. rights to income generated from livestock); processors (access to processing technologies and information); market agents (access to transportation, safe market spaces and overnight accommodation, risk of sexual harassment and abuse); and according to the economies of scale (bringing women together to improve their market position) (IFAD, 2007).

The ability to manage the risks determine the achievement of a sustainable competitive advantage, market linkages and adapting to a changing business environment.

Unpredictable price changes also poses a risk in the local markets and contract farming is an option that can enable market access together with other factors of production.

Chain sustainability

To stay competitive value chain actors must look beyond their own operations against the background of customer competition, resource scarcity which is changing the way to do business. So optimal solutions are required to drive impactful action for business on the economic, environmental and social activities in a sustainable way.

Gender inequality in value chains: In agricultural setting women`s work is invisible, often takes place in the least parts of value chains, they tend to be underpaid and their jobs are less secure yet they play a key role in upgrading strategies. In comparison to men, women face higher disadvantages in particular in terms of mobility, access to productive assets, productive resources and access to market information with the result that they find it difficult to access and maintain profitable market niches and capture a larger slice of income for the household (IFAD, 2007). While they play a bigger part in farm activities and in value chains gender inequality in agricultural value chain create a missed business opportunity as it associated with high economic costs and leads to wasted human and missed opportunity for innovations (Laven, 2009).

Gender is the socially constructed difference between men and women i.e. the meaning the society gives to the roles of women and men resulting in certain power relations and dynamics in access and control over resources. The consequence is the inequality for people to make their life choices. It is however important to distinguish the areas of gender inequality that are relevant to the efficient operations of value chains or for facilitating inclusive value chain development strategies or innovations.

Thus understanding the position of women in value chains, how the changes in a specific value chain such as the smallholder value chain in Gurube might affect gender inequality and the main constraints for women in terms of gaining from value chain participation requires one to place gender in the context of intra-household bargaining and of broader social processes dimensions (Wyrod, 2008).

2.4 Quantitative overlays

Costs: Costs are generated from the full range of activities involved in creating value of a product along the value chain. These costs are either observable or non-observable costs in the form of variable or fixed costs. Transactions between two or more economic actors bring transaction costs which are related to finding a market, signing a contract or switching costs. Costs are crucial in calculating the financial position and also for the organisational effectiveness and in making strategic decisions therefore determining the competitive advantage of the chain. Linkages are most likely to exist if the performance or cost of one activity in the value chain affects that of another i.e. optimising and co-ordinating linked activities.

Revenue and value shares Revenues i.e. the selling price of the produce while value shares is the percentage of the final retail price that the actor earns and the size of the value share reflects the amount of costs and risks that the actor has put into the chain (KIT and IIRR, 2008). Value shares in the form of economic gains along the value chain and their distribution tells something about the type of product.

2.5 Business model canvas

The business model canvas is a simple tool for designing innovative business model. It is a strategic management and entrepreneurial tool that allows to describe, design, challenge and invent and pivot a business such as the egg production business involving smallholder farmers in Gurube district. The business model canvas is a hands on tool that fosters understanding, discussion, creativity and analysis of a business. It is a faster and more effective way to communicate with internal and external stakeholders of a business such as the egg production engaged by smallholders in Gurube district.

The various components of a business model canvas are indicated in figure 2.6

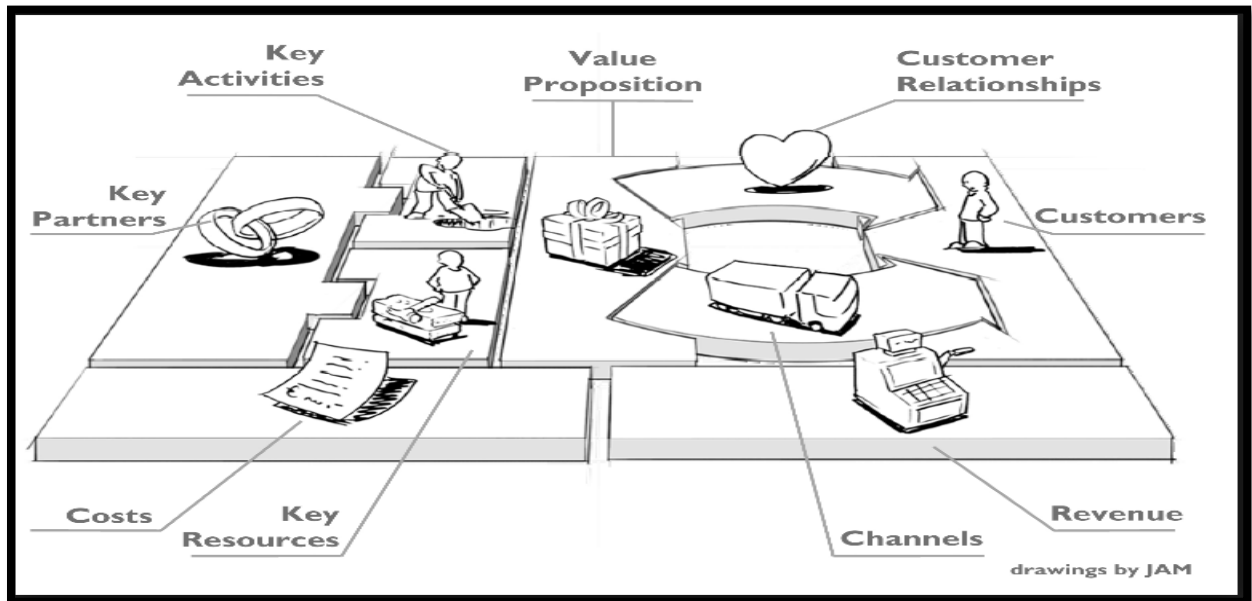


Figure 2.4: Business model canvas overview (Source: Osterwalder, 2008)

KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITIONS	CUSTOMER RELATIONSHIPS	CUSTOMER SEGMENTS
Who are our key partners? Who are our key suppliers? Which key resources are we acquiring from our partners? Which key activities do partners perform?	What key activities do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?	What value do we deliver to the customer? Which one of our customers' problems are we helping to solve? What bundles of products and services are we offering to each segment? Which customer needs are we satisfying? What is the minimum viable product?	How do we get, keep, and grow customers? Which customer relationships have we established? How are they integrated with the rest of our business model? How costly are they?	For whom are we creating value? Who are our most important customers? What are the customer archetypes?
	KEY RESOURCES		CHANNELS	
	What key resources do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?		Through which channels do our customer segments want to be reached? How do other companies reach them now? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?	
COST STRUCTURE		REVENUE STREAMS		
What are the most important costs inherent to our business model? Which key resources are most expensive? Which key activities are most expensive?		For what value are our customers really willing to pay? For what do they currently pay? What is the revenue model? What are the pricing tactics?		

Figure 2.5: business model canvas elements in detail (Source: Osterwalder, 2008)

Cost structure: This describes the monetary implications while operating under various business models. It identifies whether a business is concerned in reducing cost i.e. cost driven or is less concerned with cost and focusing on value creation for its products such as eggs. Characteristics of cost structure involves fixed costs, variable costs which change according to production levels within the business. Costs within the business go down as the amount of goods are ordered or produced, i.e. economies of scale.

Revenue streams: Relates to the way a company makes money from each customer segment in different ways through asset sales, advertising, licensing i.e. revenue model. The pricing tactics and how are they paying or willing to pay.

Key activities: This entails the most important activities within a business to attain the value proposition. This can include activities in the production part of the business such as feeding, health management and culling in egg production

Value proposition: The collection of services a business entity offers to meet the needs of its customers which distinguishes it from its competitors. It provides value through elements such as its new performance, accessibility, design, brand, price, cost reduction, usability and accessibility.

Key partners: Key partners are important to optimise operations and reduce risks in the ever changing market or business environment. Strategic partners with suppliers which can be cultivated through joint ventures, strategic business alliances with also service providers to the business.

Key resources: Key resources are important for any business to create value to its customers. They are considered the assets which are needed to sustain and support the business which could be human, physical or financial resources.

Customer segments: To build an effective business model a company must try to identify its customers segmented based on the different needs, attributes, market response to ensure appropriated implementation of co-operate strategy meets the characteristics of the selected group. Customers segments include, niche market and mass market.

2.6 Marketing mix used by retailers

When marketing products companies need to create a successful mix of the right product, sold at the right price, in the right place using the most suitable promotion. Termed the 4ps is a tool used to test an existing or new market strategy and involves the different kinds of choices an organisation has to make in the whole process of bringing a product or a service to the market to meet the customer requirements.

Product: This is the good or service offered to target customers and the typical product quality attributes include; it's physical appearance, packaging, quality features, different ranges, brand name, warranty and customer service. This should meet the needs of a particular target market therefore adequate knowledge of what the target market wants and what competitors are supplying is important in offering a product that is appealing to customers.

Price: This refers to the value given to the product and should cover production costs including profit margin in order to generate revenue for the business. The pricing approach selected in an enterprise should reflect the position of the product in the market and is based

on the product, customer demand and the competitor environment. Some pricing mechanisms that can be used include: cost plus, value based competitors, discount, going rate, credit and payment terms

Promotion: Product promotion involves communicating and selling activities to persuade the customers to purchase the product on offer. Promotion may also involve public relations, open house days, field days with customers, exhibitions personal selling and sales promotional programs to be in direct contact with consumers and building sustainable market relationships such as commemoration of the world egg day which can generate media interest on eggs. For example the egg organisation under the theme eggs are magic in South Africa which the committee chairperson stated that

"The schools campaign included visiting five regions and going into 160 schools. A comic book, egg posters and hard boiled eggs were part of the experience for the school children which also included an industrial performance on the goodness of eggs".

Place: the distribution channel used to get the product to the target customers or consumers and depending on the product this may involve direct sales, retail or through a distributor.



Figure 2.6: Marketing mix tool

2.7 Porters five force analysis

This framework is designed to determine the competitive position of a firm or business such as egg production and its market attractiveness using a set of five forces which have determinants as indicated below

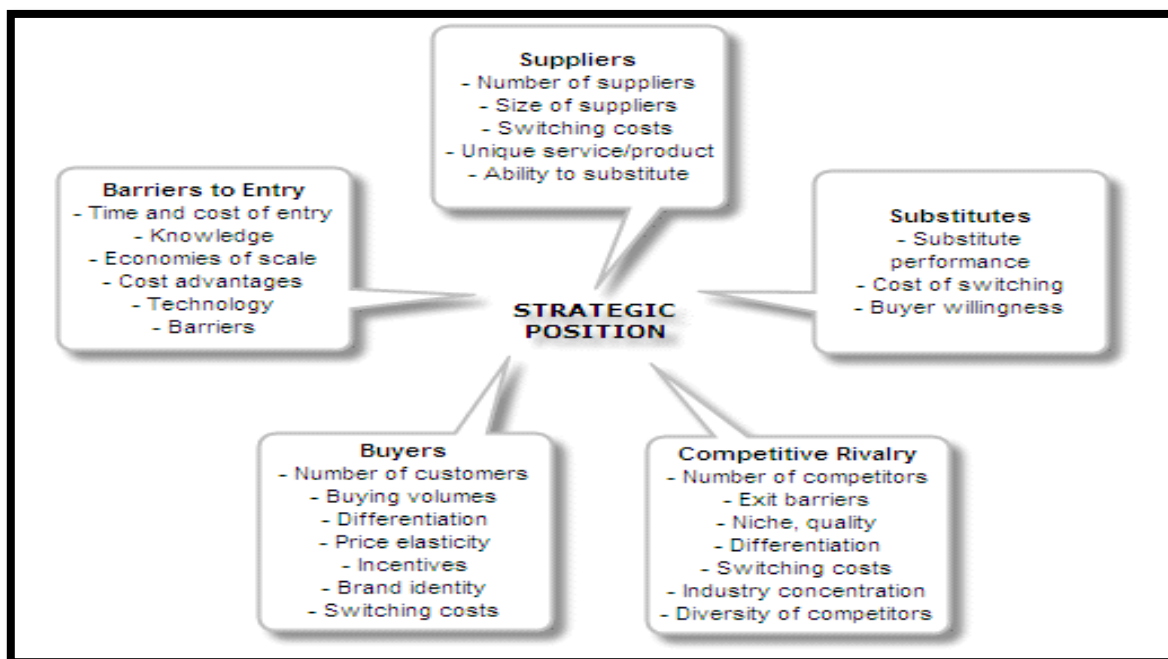


Figure 2.7: Porters five force model analysis (Source: Porter 1990).

An understanding of the competitive forces (balance of power) within an industry or sector and their underlying causes reveals the business current profitability while providing a framework for anticipating and influencing competition over time. Defending against these competitive forces and shaping them in a business is crucial to strategy.

2.8 Opportunities for linking smallholder farmers to the market

For market access there is need for evidence of strong effective demand of products i.e. market demand and growth potential to identify opportunities for forward or backward linkages between large and small firms. Market access or linkages through vertical co-ordination can be stimulated through the following:

Value chain development

Value chains are developed by developing the systems into which they are embedded. In order to conceptualize value chains it is crucial to recognize the importance of macro, market and micro level conditions that impact the value chains. It entails chain research, analysis and coming up with strategies then followed by monitoring and evaluation to assess the impact of the intervention.

Chain upgrading: Upgrading or capturing more value can be defined as increasing the competitiveness of the value chain by taking it into a new direction towards a new market, market segment or customer. Riisgaard (2010) in Hawkes and Ruel (2011) proposes five different types of upgrading strategies for smallholder producers as shown in text box 2.3

- **Process upgrading.** Improving processes, such as increasing the efficiency of internal processes, improving client management, or reducing waste.
- **Product upgrading.** Introducing new products or improving old products to give them greater unit value, complying with standards for those products, or shifting away from high-value markets to gain more value from bulk markets.
- **Volume upgrading.** Producing more of the product.
- **Functional upgrading.** Changing the mix of activities conducted to gain more value from the chain, such as taking on a new function in the chain (for example, farmers involved in processing as well as growing) or offloading such a function.
- **Improving value-chain coordination.** Improving coordination in the chain to improve performance.

Figure 2.8: Upgrading strategies (Source: Hawkes and Ruel, 2011)

Vertical integration: entails producers taking up new activities either upstream or downstream the chain for example processing, wholesaling and retailing. Vertical integration may occur for a number of reasons including stable supplies, better quality control, improved information flow, scheduling and reduction in price risk. The smallholder egg chain is a good example of how an egg production system can become vertically integrated.

Horizontal integration: is the involvement of farmers in chain management with regards to decisions on sales, product price, quantities and customers (KIT and IIRR, 2006). It involves information management, quality management, innovation management and chain cooperation. Value chain actors may improve their position through product upgrading and process upgrading. Horizontal integration in also provides uniform quality performance by supporting members through quality programs and by providing members with quality demand information from the market. One of the most important changes that could be achieved by small scale producers is to organise themselves into producer associations to effectively market their produce thus achieving a greater share of the final product price (Schalkwyk et al, 2012).

Producer organisation's and smallholder marketing organisation: smallholder farmers tend not to be organised in the market, sell their limited produces individually without linking to other actors, and so lack collective action and are exposed to price exploitations (Schalkwyk et al, 2012). Bijman and Wollni (2008) define producers' organisations (POs) as a formal, voluntary membership organisation set up for the economic benefit of agricultural producers (the members) by providing these producers with services that support the farming activities, such as bargaining with customers, providing inputs, enabling contractual links, providing technical assistance, redressing missing markets, integrating heterogeneity through providing processing or product standardisation and marketing services. Producer organisations range from farmer groups, co-operatives to apex organisations mostly as economic organisations. Collective action by organised farmers reduce transaction costs in markets, mitigate risks, build up market power through economies of scale i.e. product bulking and increase representation in policy. These high transaction costs result from individual produce transportation and

selling, difficulties in getting trading partners and poor bargaining power (Delgado, 1999) In this environment of greater instability and competition, organisation and collective action can help to enhance farmers competitiveness and increase their advantage and linkages to emerging market opportunities.

In addition to improving the co-ordination of activities among smallholder farmers marketing organisations help to guarantee product quality and safety and enhance the design of market strategies, ensuring that the quality of products is in line with the standard demanded (World bank, 2002). Market access is achieved through closer coordination of production and reduced information asymmetry to ensure delivery of high quality and homogenous products. Institutions such as producer organisations help in unlocking opportunities in the market such as the Rooibos tea in Eastern Cape Province in South Africa is a good example to broaden the access of smallholder farmers to agricultural markets.

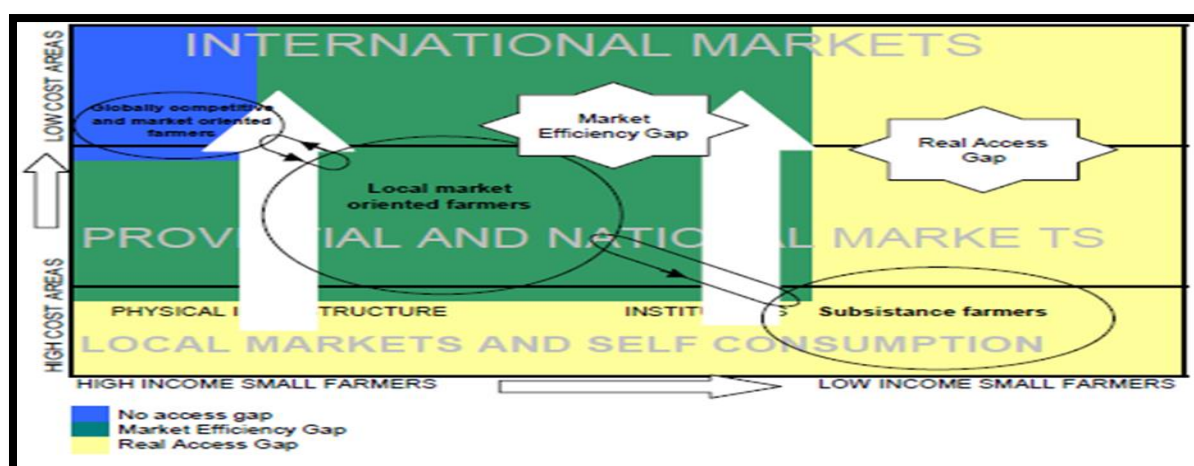


Figure 2.9: The role of institutions and infrastructure in linking smallholder producers to markets and in integrating heterogeneity (Source: Torero M, 2011)

According to (Kranton, 1996) the absence of institutions or co-operatives that help to co-ordinate marketing functions or link producers to the markets, the associated high transportation and high transaction costs undermine the process of exchange and result in limited or localised markets with limited rural urban linkages i.e. low level equilibrium trap. The potential market support institutions that can enhance or leverage market functions or overcome market imperfections in agriculture input and output markets are producer organisations (World development report, 2008). Well organised farmers will be able to bypass brokers or assemblers, rural wholesalers and transporters and connect directly with the urban high value retailers together with processors and exporters done on a contractual arrangement including out grower schemes or post-harvest bulk deliveries. For example adding new functions to horizontally coordinated institutions Newly formed producers" groups in Kenya performing grading and packaging of fruits and vegetables at dedicated centres to meet buyer requirements (Ashraf. 2008). In India shortening of chains by the exclusion of intermediaries and redistribution of functions among the partners of a newly formed vertical relationship resulted in direct sales to retailers by fruit and vegetable producers in India, with the supermarkets taking on the transport function and producers bulking and grading at dedicated collection and distribution centres coordinated by farmers" groups (Singh 2008; USAID 2008)

Participation of farmers in a producer organisations or co-operatives depends on the potential for accessing essential services to improve income and tapping economic opportunities which will act as strong incentive for anyone contemplating membership. In terms of certification, it is less costly for centralised producer organisation who can also devote resources to get relevant information or current legal and technical issues in the targeted markets. However for these organisations to be beneficial to farmers, governments need to provide complimentary public goods, policies that would empower small-scale producers to participate in markets (Kelly, 2003).

Institutional support: The extent to which smallholders can participate and benefit from livestock growth depend on how technologies and institutions respond to their needs . Market imperfections meaning that market do not function properly can be due to lack of market institutions resulting in information asymmetry, lack of credits and interlocked markets. Farmers need to operate in in a strong institutional and supportive environment in order to be able to access or link with new markets and so they need to have adequate alliances with internal and external stakeholders. Stakeholders able to play a role are value chain members, sector associations, trade unions, national, provincial and district authorities, together with supporting research institutes and NGOs (Schalkwyk et al, 2012).

Contract farming and long term supply arrangements with the agribusiness sector: Contract farming is an economic institution that responds to imperfections in the credit, insurance, information, inputs, and raw product markets; and to transaction costs related to search, screening, and transfer of goods, bargaining and enforcement (Key and Runsten 1999). However it is seen as a means to inco-operate smallholder farmers into growing markets, growing agricultural sectors as it can be source of credit, technical assistance, insurance and information and is a strategy employed by large firms to ensure a steady supply or products meeting a certain standard. This form of vertical co-ordination simultaneously removes a number of constraints on small farm productivity and risks inherent (Torero, 2011). So contracting farming is important in accessing markets through reducing risks and meeting the standard requirements of higher market markets such as the growing retail markets in urban areas. It has however shown that technological barriers i.e. egg labeling, education and incentive based problems are responsible for the failure of contract farming. In the absence of laws and institutions supporting contracts in developing countries, enforcement of contracts and incidence of mistrust has at times been a problem (Dev and Chandrasekhar, 2004). In South Africa 70 to 80 percent of poultry meat and eggs are mainly purchased through vertical integration, contracts long term supply arrangements with selected farmers (Schalkwyk et al, 2012). However 25 percent of the eggs purchased by the egg companies in that country are based on contacting.

Direct marketing: This may be customers wanting locally produced products and the perceived demand existing for the particular product as indicated by (Manville, 2008). It may be local support initiative to farmers, retailer perception and willingness to absorb the product, retail supermarkets willing to invest in programmes to support local farmer and ability of the farmer to differentiate. The major advantage is that institutions buy in bulk which reduces costs on transport for delivery and enhances producer and consumer relationship.

Farmers markets; The primary function is to bring together producers who sell locally grown produce to local consumers. Farmer markets as direct sales of eggs are also some of the channels utilised by egg producers. A farmers market may offer advantages to both

producers buyers and consumers as they improve communication and improve relationships through bringing people together although volumes traded may be low. Farmer markets may also include road side markets or community markets.

Infrastructure support: The lack of proper infrastructure for the sale of poultry products is a constraint to generating revenue from poultry production (Kysvgaard, 2007). The low production output is regarded mainly from high transaction costs which are related to the volume of goods i.e. volume transported. This is mainly due to poor infrastructure that serve most smallholders including road and market infrastructure which may not be attractive to consumers putting farmers at risk of losing customers. Proper handling and storage facilities are also a key in farmers participation in the market as they contribute to ensuring quality maintenance giving farmers a competitive edge (Schalkwyk *et al*, 2012).

Marketing arrangement with institutional markets: Institutional markets are markets provided by public and private institutions which include hotels, schools to name but a few (Mtonga, 2012). They are a reliable markets and offer bulk purchases but the issues of delays in payment and outstanding balance is a perceived major challenge. Additionally supplying to these institutions require one to be awarded a supply tender or contract and mostly the middlemen or trader have access to information wins the tender (Mtonga, 2012).

Marketing arrangement with retail supermarkets: The rise of supermarkets has provided market opportunities but has also implications for the entire food marketing system as it has altered the procurement system and has introduced new quality and safety requirements. (Barda 2002), defines supermarkets as self-service stores that stock food staff and other fast moving consumer goods and can be owned by supermarkets as well as individuals. More often than not the new procurement system expect larger supply volumes and favors commercial producers and a few co-operatives access to retail supermarkets as they demand specified quality and quantity of products (Barda, 2002). Producer groups can simplify long marketing chains by connecting smallholders directly to markets, bypassing various marketing intermediaries and tapping directly into high market segments. Supermarkets may request special discounts to cover for promotional costs.

CHAPTER 3: RESEARCH METHODOLOGY

The chapter presents the study area, study design and data collection strategy and the way the collected data was analysed. The research used both qualitative and quantitative approach through desk research to obtain secondary data and field research through the use of semi structured interviews and focus group discussions.

3.1 Study area

The research was conducted in five wards in Guruve district one of the eight districts of Mashonaland Central Province in the eastern side of Zambezi valley in Zimbabwe. The district lies in natural region 3 and 4 which receives an annual rainfall of 650mm and is suitable for semi intensive cropping and livestock activities. The district is bordered on the North east by Mbire district, the south by Mazowe district and the east by Centenary district. Guruve district has a population of 200 833 (Zimstats, 2013), land area of 2994.33 square kilometers. It is divided into 25 administrative wards which also determines the administrative boundaries in the district. The vegetation type in the district is savannah vegetation. The district has fourteen business centers that include Chapota, Chitima, Gonono, Chidodo and Bakasa among others. Three vending areas in the district which include Bakasa, Kachuta and Neshangwe and 15 animal health centres. The main economic activities carried out in the district include, agriculture, mining, fishing and sculpturing targeting mainly the export market.

Guruve centre serves as one of the biggest marketing centers for agricultural goods due to the network of roads that facilitate easy marketing of products between rural and urban areas and is the link to the main road from the capital city Harare to Mahuhwe.

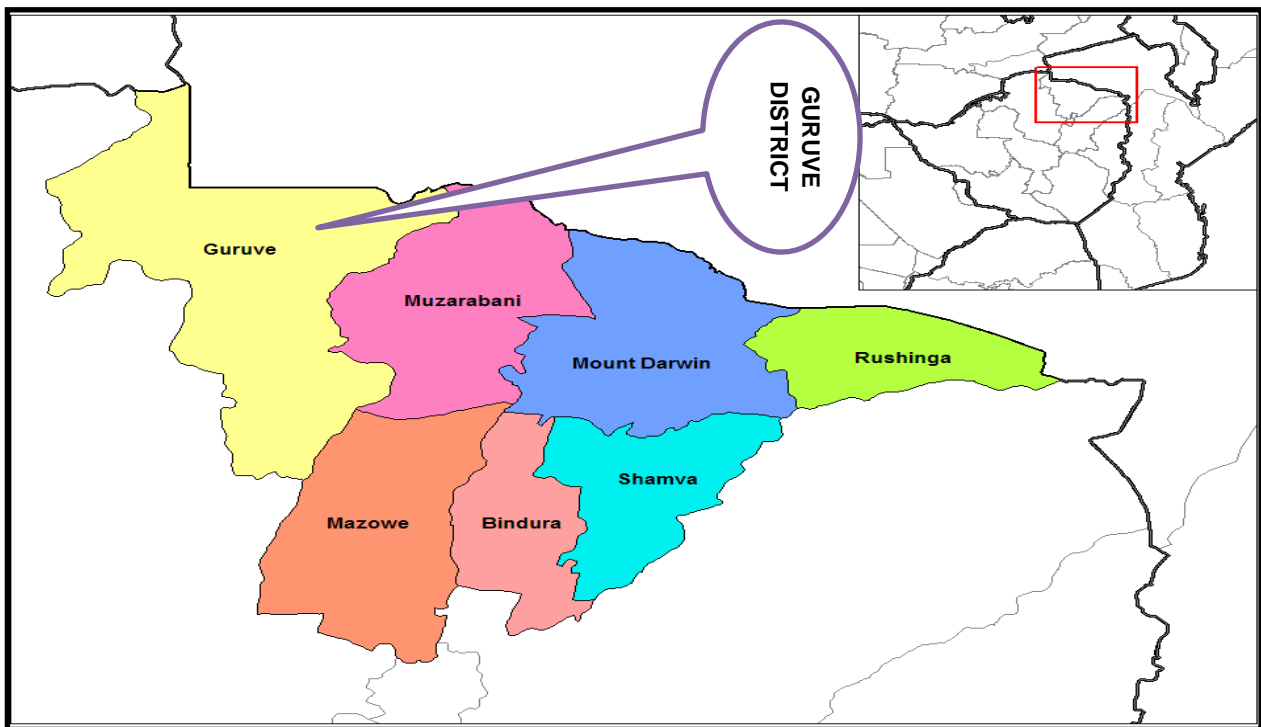


Figure 3.1: Map of mashonaland central showing the position of Guruve Source :World map.com)

The ministry of Agriculture mechanisation and irrigation development with the sole responsible for agricultural development also uses the administrative wards as operational zones for co-ordination and supervision of agriculture extension workers AEWs and LEWs together with animal health assistance. On the political wing each ward is represented by a ward councillor who works in collaboration with the district council.

3.2 The Case study

Four hundred and fifty smallholder egg producers in egg production are located in ward 6,7,8,9 and 22 of the district recommended for semi intensive farming where maize yields are reasonable i.e. 1.2 tonnes per hectare.

3.2.1 Data Collection

Data collection for the research was collected through desk study, focus group discussions and semi structured interviews with stakeholders in the smallholder egg value chain of Guruve district.

Desk study

Prior to the commencement of the fieldwork, desk research was carried out to obtain literature and secondary data on the smallholder egg value chain in Guruve district. This was obtained from the library from, latest books on the internet, journals and annual reports of the Ministry of Agriculture Mechanisation and Irrigation Development and project reports from stakeholders such as LGDA, FAO, SMEs, Agritex, ZIMRA, Zimstats, Voca, Guruve Rural District Council, and the District Administrator's office. The district, provincial and national livestock production and development annual reports were also used to gather information on egg production and marketing issues in this district.

Focus Group discussion

Three focus group discussions were conducted at Ruinga business center (for producers in ward 7 and 8), Ruyamuro business center (for ward 9) and at Gono secondary school (for producers in ward 6 and 22) as convenient points. The attendance at Ruinga, Ruyamuro and Gono school was 33, 47 and 59 producers respectively. Other stakeholders who attended include representative from St phillips school, LPD, Agritex and the local councilors.

Borrowing concepts from the market link tool which has a value chain approach focus group discussions were selected for data collection for this research. This is because focus group discussions are a participatory form of value chain analysis with value chain representative such as extension officers to validate and compliment the information gathered. They also serve as reality check to identify linkage possibilities and to foster ownership of the eventual interventions proposed and to share experience and ideas among different kind of institutions operating within the same value chain.

A participatory approach was used in conducting the discussions as all the farmers present had equal opportunity to take the lead in the different sessions. With the aid of a checklist see annex 2, five participatory appraisal tools were used during the three discussions which are

- Stakeholder matrix which was used to identify the actors and stakeholders and their roles in the chain including the risks that are encountered.

- Value chain map for mapping the smallholder egg value chain in the district of Guruve to identify product flow and the overlays of the chain
- Value share analysis to indicate how the egg value shares are distributed among the various actors in the chain.
- Venn diagram for indicating the chain or market relations among the actors in the egg value chain in Guruve district.
- Business model canvas to give farmers an overview of the egg production business and to identify the major challenges.

A plenary session to identify the challenges was held at the end of each discussion. Two farm visits were carried out, one from a female producer and one from a male producer to compliment and validate data and information collected. Data collected was also consolidated to complete the porters five force model and carrying out a SWOT analysis for the egg value chain. In the first focus group chain mapping was not carried out but all the other tools were used. Farmers were informed of the focus group discussions through the assistance of the district Livestock specialist of Guruve and the livestock extension supervisor and LEWs of the respective wards

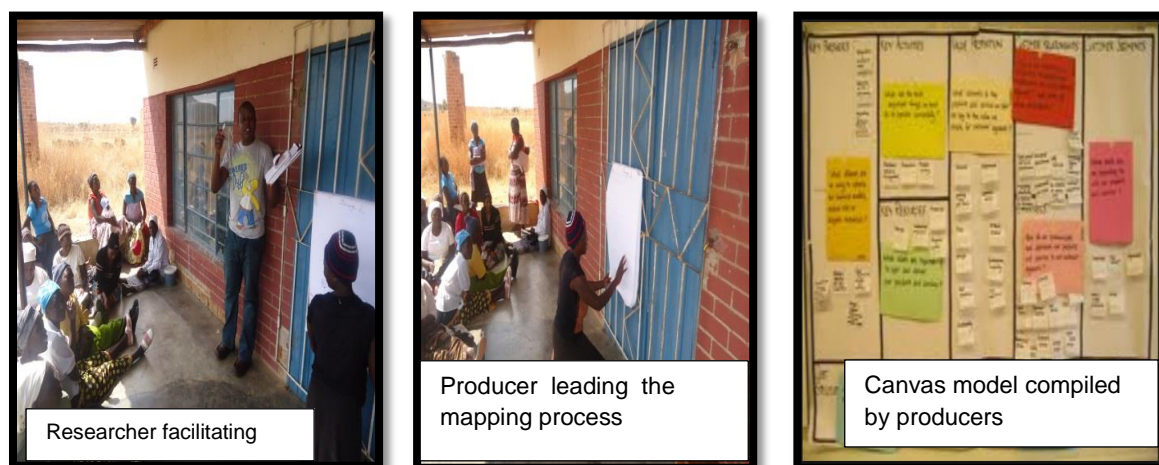


Figure 3.2: Participatory discussion, chain mapping, compiling business model canvas and Venn diagram

Interviews with stakeholders.

A number of face to face semi structured interviews with different actors and stakeholders in the smallholder egg chain in the district was carried out. The aid of a checklists to give direction to the interviews. This also was combined with observations grids and content analysis of reports and policy documents on livestock in order to obtain in-depth information on the whole egg value chain. Details of the nature of interviews are described as below:

Interview with Ok retail chain supermarkets

Retailers of eggs in Guruve centre were interviewed to obtain information on their activities. Questions in the checklist focused on where they obtain their stock, the cost and selling price, amount required per week, quality issues, promotion of local products, problems they face in marketing in procuring from smallholders, opportunities for smallholder egg producers to deal with them and the business arrangements they prefer.

Interview with institute St Phillips boarding school and Guruve hotel

St Phillips school is government institute and a consumer of eggs from the smallholder sector. Questions in the checklist focused on where they obtain their stock, the cost of purchasing eggs, quality issues, problems they face in obtaining eggs from the smallholders producers their perceptions in linking with smallholder egg producers in the district.

Interview with the Zimbabwe Poultry Association chairman

The Zimbabwe Poultry Association chairman will be interviewed to provide information on the current status of the smallholder egg sector. Questions also focused on their functions or services in the chain, how information flow to members and the current challenges being faced by smallholder farmers in accessing emerging high income markets in urban areas. Possible strategies that can be employed to improve market access to the urban areas will also be provided.

Interview with the farmer egg center in Guruve centre.

An interview with the employee at the egg collection Guruve center was interviewed to obtain information on how they co-ordinate in terms of volumes, quality, the costs and selling prices, amount sold, quality issues, promotion of local products, their marketing strategies, problems they face in marketing, opportunities for egg producers from the smallholders.

3.2.2 Data processing and analysis

Data collected from the discussions, interviews and observations was processed into transcripts as indicated in Annex 8 to Annex 13. Qualitative and quantitative analysis were done through models and thematic analysis since empirical data obtained was in descriptive, narrative and in model form such as the value chain map, venn diagram and the business model. Key topics of the discussions relevant to the objectives were used for content analysis.

3.2.3 Limitations of the study

Limitations were encountered during the study which include language barrier as some farmers preferred to use Shona and others preferred English terms. The researcher had to rely on translation to local Shona terms although at times there was distortion of the meaning. Also data collection was carried out during and immediately after the election period and this made it difficult to have the full attention of producers and stakeholders. However the information gathered was adequate for this thesis.

CHAPTER 4 DYNAMICS OF THE SMALLHOLDER EGG CHAIN IN GURUVE

This chapter presents findings from the research study in two parts. Findings from focus group discussions with farmers is presented first, this is followed findings obtained through in-depth semi structured interviews and observations as well as farm visits.

4.1 Focus group discussions with farmers

There are 450 smallholder egg producers with 18000 birds in ward 7, 22, 8, 6 and ward 9 respectively with a capacity 40 layers per household 202 farmers are currently in production. The attendance at Ruvinga, Ruyamuro and Gono school were 33, 47 and 59 producers respectively.

4.1.1 Stakeholders in the smallholder egg value chain

The producers during the focus group discussions indicated the stakeholders involved in the smallholder egg value chain in the district include actors or supporters providing financial business services and non-financial business services as indicated in figure 4.3. These stakeholders include breeders, feed suppliers, government departments LPD, veterinary services and AGRITEX, financial institutions such as AGRIBANK, local shops and the local community



Figure 4.1: Stakeholders in the smallholder egg value chain in Guruve district

Input suppliers

Those commonly found in the district include suppliers of drugs, day old chicks, feed additives, poultry feed and suppliers of equipment such as feeders and drinkers. Agrodealers or feed companies such as National foods, Agrifoods, Capital foods supply feed as either concentrates or straight feeds. Breeders of Day old chicks or POLs include companies like IRVINES, LUNA chickens and Crest breeders who operate hatcheries with parent stock or import fertile eggs for hatching and are vertical integrated in their operations. They have subsidiary outlets or supply agrodealers in the Guruve. The major risks faced by input

suppliers include, fluctuations in prices of inputs, interruptions in power supply, unavailability of inputs on the market such as maize and soya, prices controls especially on maize and policy changes on GMO feed imports.

Producers

These are egg producers who buy point of lays or day old chicks and other inputs from suppliers or agrodealers and raise them for 52 to 72 weeks producing eggs. POLs are purchased between the age of 17 to 19 weeks ready to produce standard eggs of around 60g. Anning (2006). Generally farmers do not produce for a particular market but rather look for market after production. The major risks faced include disease outbreaks such as new castle and fluctuations in egg prices on the market, poor handling, low productivity, high production costs, seasonal availability of maize and high interest rates of 25% per annum.

Travelling traders

They are responsible for collecting eggs from producers usually in bulk. They act as intermediaries in some cases through selling to wholesalers or local shops and or sale directly to consumers on the open market as fresh or cooked eggs. They take care of the eggs until they reach the wholesalers and retailers. They usually have strong relationships with their suppliers and buyers mainly through social networks. Grading of eggs is also done but packing is poor.

Retailers

These are retailers of eggs and sell to consumers in whatever quantities they wish to buy as single units or as crates. They range from small local community shops to retail chain supermarkets. Some retail shops have their own wholesale sections selling eggs in bulk. Small local shops are located at growth points such as Ruyamuro, Ruvunga and the chain retail supermarkets such as OK supermarket, TM, and FOOD WORLD are located in the main centre of Gurube providing customer self-services.

Consumers

Consumers of eggs are in the low income segment are individual consumers from the community, institutions such as boarding schools, hotels and hospitals. High income consumers are mainly the working people who pay cash. They purchase eggs in quantities they prefer directly as table eggs ready for cooking or processed eggs mainly as boiled eggs through vendors.

Table 4.1: Stakeholder matrix for the smallholder egg value chain in Guruve district

SUPPORTER	ROLES	RISKS AND CONSTRAINTS FACED	COSTS INVOLVED.
(Government departments) Livestock production and development	<ul style="list-style-type: none"> - Provides, technical and advisory services in egg production through the training and demonstrations in the various wards carried out by LEWs. - Regulatory services through monitoring of poultry farms. 	Limited funding.	Administrati on costs.
Veterinary services	<ul style="list-style-type: none"> - Carrying out disease surveillance on poultry - Disease prevention and control through vaccinations. - Regulate the importation of day old chicks, vaccines, drugs, on poultry and poultry products. - Issuing movement and import permits prior to transport of poultry and poultry products 	Limited funding.	Administrati on costs
DR & SS	<ul style="list-style-type: none"> - Research and development through carrying out trials and demonstrations. - Dissemination of information and results to other stakeholders in the poultry industry. 	Limited funding.	Administrati on costs..
Zimbabwe Poultry Association	<ul style="list-style-type: none"> - Facilitates dialogue and provide market information and protect interest of members. The organisation is centralised in the Capital centre Harare. 	Limited funding.	Administrati on costs.
Agricultural Bank of Zimbabwe	<ul style="list-style-type: none"> - -Provides credit to poultry farmers, agro dealers and wholesalers mainly those who have collateral. - Visit farmers beneficiaries from their loans to monitor and give recommendations where necessary on how to improve the efficiency of production 	Economic shocks, inflationary environment. Loan defaulters.	Administrati on costs.

Transporters	<ul style="list-style-type: none"> - They provide transport to farmers, traders and vendors in carrying their eggs from one point to the other. - They usually have open trucks and lorries or mini buses 	Interruptions in supply of fuel, fluctuating fuel prices, poor and inaccessible roads.	Fuel costs.
Non-Governmental Organisation Lower Gurube development Association, FAO	<ul style="list-style-type: none"> - Provision of inputs and facilitation in marketing of eggs to the community. - Provision of technical and advisory services to smallholder egg producers. 	Uncertain political environment	
Local leaders Kraal heads and chiefs	<ul style="list-style-type: none"> - Facilitate in settling conflicts between buyers and sellers - Selection of beneficiaries of poultry inputs 		

4.1.2 Chain mapping

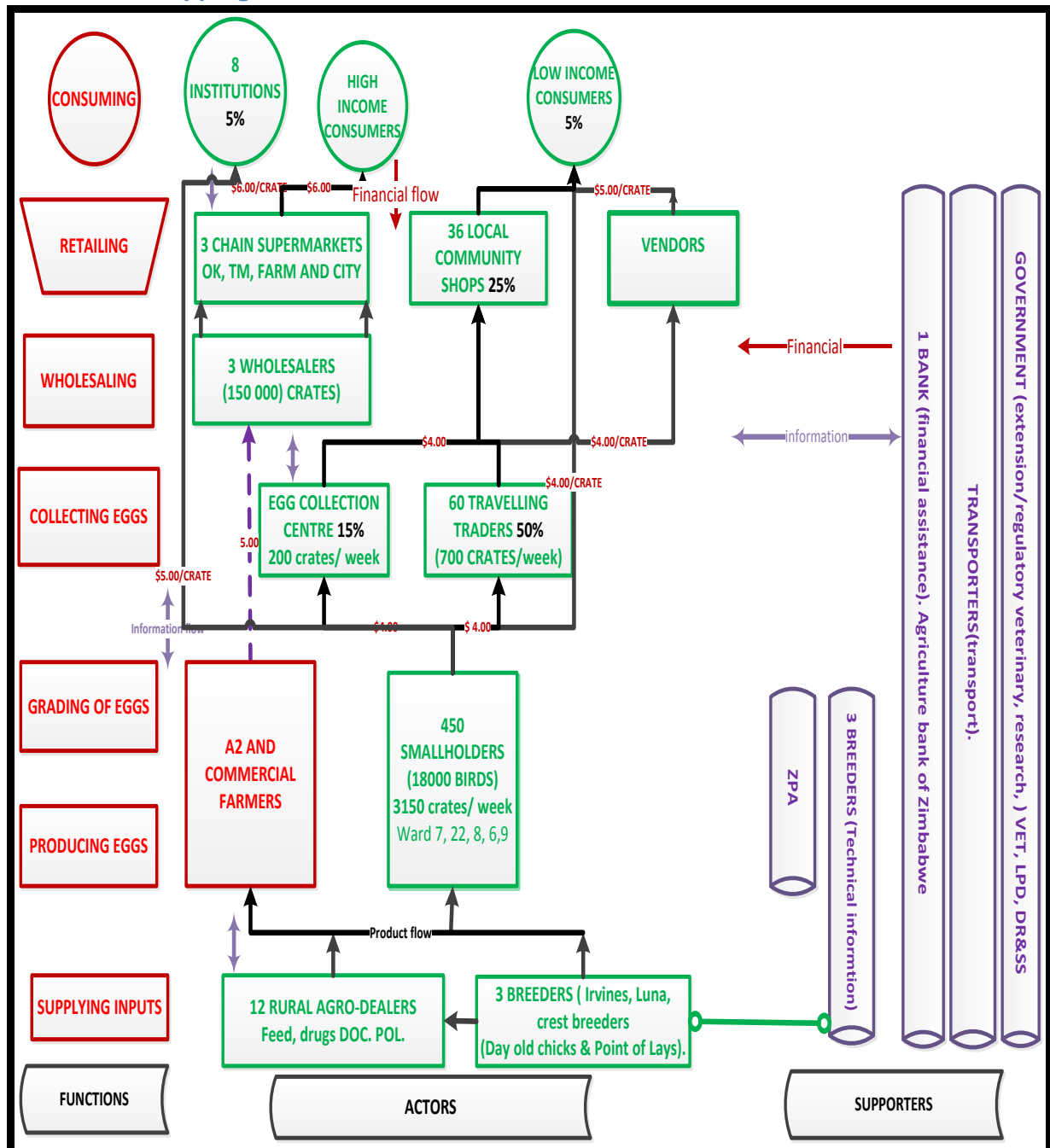


Figure 4.2: Guruve district smallholder egg value chain map

This appraisal tool was used at Gono school and Ruyamuro business centre. Four farmers i.e. were responsible in leading the mapping session i.e. two males and two females in each focus group discussion. The main difference with figure 1.3 is the egg centre were 15% of eggs from 60 producers are still supplying their eggs. 5% of eggs from the smallholder are being sold to institutions in contrast to figure 1.3 with no farmers supplying through that channel.

4.1.3 Value shares of actors in the smallholder egg chain in Guruve district

The distribution of value shares in the smallholder egg chain from the farmer, trader and the local retail shops was calculated as 81%, 13% and 6% respectively as shown in Figure 4.2 the selling prices are, \$4,00 per crate at farm gate through trader and \$ 5,00 through local shop.

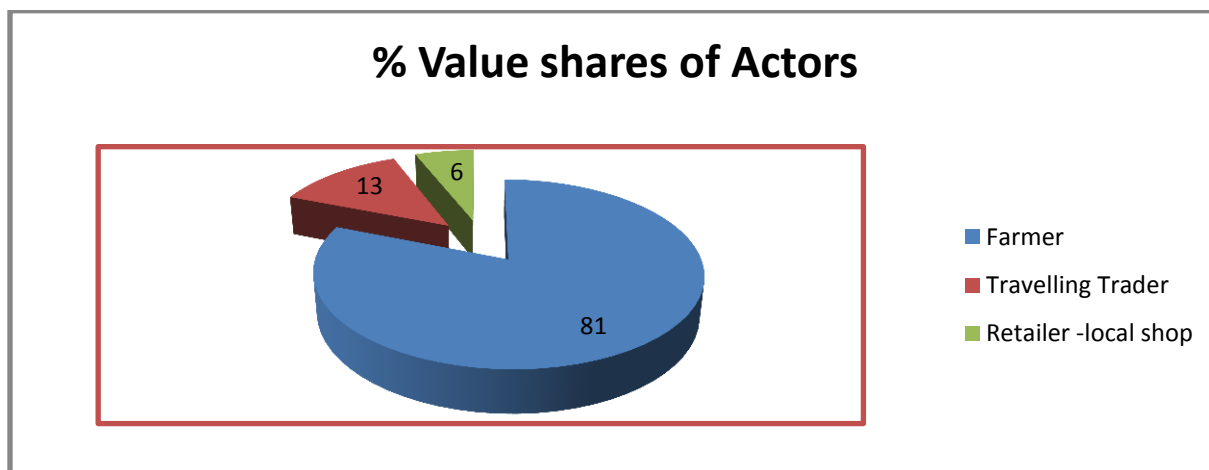


Figure 4.3: Distribution of value shares among actors in the egg chain

4.1.4 Identifying chain relations

Figure 4.2 as indicated by the producers depicts that the most important stakeholders are the breeders of the chicks and POLs, financial institutions, local retail shops, feed suppliers, ZPA and the government departments. The least important include NGOs, traders, SAZ and local leaders. The most accessible stakeholders as depicted in figure 4.2 are the local leaders and egg traders and this assumes strong market relations. The least accessible is the ZPA, SAZ, financial institutions, Breeders and local shops and so have weak market or chain relations. Traders have also strong relations with retailers and institutions, the traders have power in the chain because they of market intelligence on prices and quantities required in the end market.

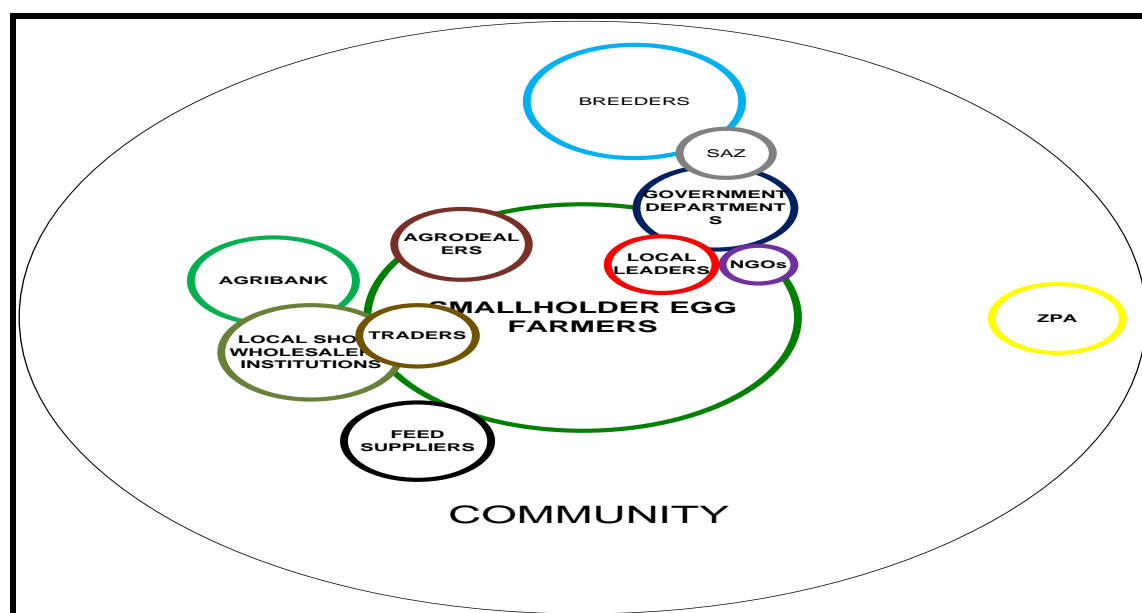


Figure 4.4: Consolidated venn diagram showing actors and chain relations (*size represents importance and distance defines relations*).

Information flow

Farmers indicated that they were aware of the market information such as prices, quantities, quality, market opportunities and delivery times but they did not have access to trustworthy information resulting in information asymmetry with the end market. Only the traders provided them with information on the current prices they are purchasing eggs. From the chain supporters they only get information related to production issues such as vaccinations and training.

Sustainability-Gender aspects

As indicated on the chain map figure 4.1 there are 300 females and 250 male egg producers and so issues of gender were focused on the following:

Intrahousehold relationship practices: Farmers revealed that as intensification increases there was a change in household division of labour, control and livestock related decision making. Mostly women have the main responsibility like feeding, cleaning, grading and sorting but are not necessarily endowed with complete ownership and control of the layers and decision making regarding the use of income from sales. Most farmers in ward 22 highlighted that the distance to the egg collection center was 18km and required men to go and sell the eggs. Some farmers indicated that men had better marketing skills compared to women and so preferred to sell to the intermediaries and occasionally took eggs to Guruve centre.

Access to capital and other resources: The producers highlighted that they had equal opportunities in accessing resources, finance, farmer training on egg production through the livestock extension officers. Other inputs like feed and point of lay birds were provided by LGDA and women had also access.

Bottle necks in the chain

Limited number of channels to reach customers, limited training on value adding skills as training is more production oriented, limited product certification, limited implementation of quality management systems, branding and labeling of eggs are some of the challenges in this smallholder egg chain. Poor organisation of farmers in the market i.e. farmers sell their eggs individually to traders and to the farmer egg collection center in Guruve and there is no collaboration with other farmers to produce and deliver consumer orders.

4.1.5 Compiling Business canvas Model

Value proposition

Farmers revealed that the value proposition for the eggs they produce was to produce fresh large or standard clean brown eggs indicated in table 4.5. Customer complaints especially on size of eggs were handled through offering an additional eggs for those buying single units. In terms of egg breakages and rotten eggs they did not have a clear strategy on how to handle such customer complaints. Most of the customers preferred large and clean eggs and so that is the customer needs they are trying to satisfy. Their unique proposition was the yellowish egg yolk that mainly result from the green vegetable matter they feed the birds.

Customer segments

During the focus group discussion farmers revealed that they only have one product they are producing which is table eggs for their customers. They were targeting both the high,

medium and low income consumers for their product. The most important consumers were the high income especially the working class which preferred cash payment as opposed to the other customer segments.

Channels

Results show that eggs were sold to the local community who usually buy single units, to the egg collection center in Guruve, travelling traders and to the local schools and shops and at times at church gatherings. The farmers indicated that there was no formal communication with buyers of eggs and mostly traders made phone calls if there are any eggs available. The posters in front of their homesteads was enough to attract customers for their products. Eggs are either sold at farm gate or they are collected by traders or transported to Guruve egg center. Coping with customer routine was highlighted as a challenge as sometimes the eggs will not be available due to feed challenges resulting in lower egg production

Customer relationship

The farmers indicated that they did not have any contract with their customers and since there is variability in supply they had to deal with what is available. The majority of the farmers responded that their customers were free to visit the farms and no specific open days were scheduled for that. They highlighted that they do not have any training workshops for their customers.

Key Activities

The key activities performed as indicated by the smallholder farmers in egg production include record keeping of daily egg production, feeding of birds, maintenance of poultry houses, visual grading or sorting of produced eggs into standard, medium and small eggs and marketing. Purchasing of point of lays and feeds was also highlighted as a key activity undertaken by the smallholder farmers. For marketing and sales activities farmers revealed that they usually make phone calls and had a board written to show availability of eggs at the respective homestead. In terms of research and development

Key partners

The most important key partners indicated by smallholder farmers include, the livestock production division, veterinary services, local leaders, Agritex , LGDA and FAO. The input suppliers include, national foods, capital feeds, pro-feeds, agri-foods and Fivet. The key partners provide technical support such as training, advisory and regulatory service especially the government agents.

Key resources

The farmers indicated that they do not have a brand for their product and land was the most important resource which averaged between 1 to 1.4 hectares per household. Other key resources include financial resources, poultry houses, feed, layers, cattle and farming equipment, Other physical infrastructure owned by the farmers include the granaries, poultry houses and wells. Most farmers utilised family labour to undertake activities related to egg production such as picking, grading and feeding of eggs because they do not have the capacity to pay for permanent or part time employees. None of the farmers indicated that they had access to loans from financial institutions and so they self-financed the business.



Figure 4.5: Layer houses (collected during farm visits) an important indispensable physical infrastructure for smallholders

Cost structure

Table 4.2: Cost structure for smallholder egg producers in Gurube district

ITEM (variable costs)	Number /Quantities	Price per unit (USD)	Costs
Feed	1800 kg	\$0.75/ kg	\$1350.00
Transport costs	38 bags	\$ 2.00/ 50kg bag	\$76.00
POLs	40	\$9.00/ bird	\$ 360.00
Drugs (ESB3)	3	\$3.00	\$9.00
Sales and marketing costs	52	\$1.00	\$52.00
Utilities (lighting)	-	-	-
Packaging material	364 crates	\$1/ 50 paper crates	\$ 8.00
Miscellaneous			\$50.00
Total variable costs			\$1955.00
Fixed costs (depreciated)			
Housing	1	\$ 240.00	\$ 240.00
Equipment feeders and drinkers	4	\$8.00	\$32.00
Labour costs	-	-	-
Total fixed costs			\$ 272.00

The results for the cost summaries show that feed had the highest cost of \$ 0.75 per kilogram which translate to \$ 37.50 per 50kg bag of concentrate followed by point of lay birds. transport costs which is \$ 1 826.00. There is no cost incurred for lighting of poultry houses as it was deemed expensive to install electricity. The farmers also indicated that they used locally available traditional herbs in treating sick birds such as mucina for coughs and black jack to strengthen and colouring of yolk. Business is cost driven and not value driven

Revenue streams

Table 4.3: Producers revenue streams

ITEM	Number /Quantities	Price per unit (USD)	Costs
Output (No. Of crates)	390	\$4.00	\$ 1560.00
Output (No. off laying birds)	40	\$4.00	\$ 160.00
Vegetables	2100 bundles	\$0.25	\$ 525.00
Total revenue			\$ 2245.00
Gross margin			\$290.00
Cost price per crate			\$ 3.67

Farmers revealed that the price per crate ranged from \$ 4.00 to \$ 4.50 in the district or \$1 for six eggs if buying single units. The results show that most farmers sold vegetables seasonally apart from selling eggs, manure was indicated not a source of revenue as most people had cattle and so use cattle manure as an alternative.

Contribution from St Phillips high school representative Mr. Govere during the discussion

The school representative raised the following points with regard to farmers supplying eggs to the school which requires 750 eggs every two days to cater for the boarding needs. The school purchase at \$5 per crate for standard eggs

- The quality of some eggs supplied by the farmers was poor with a lot of breakages during boiling. They do not have strong shells.
- Some famers are not flexible with the payment terms offered by the institution as the school is not always having cash in its coffers.
- Failure to meet the requirements as some farmers are getting out of production.
- Price offered to the farmers remain \$ 5.00

KEY PARTNERS		KEY ACTIVITIES		VALUE PROPOSITION		CUSTOMER RELATIONSH		CUSTOMER S
a) Suppliers *Breeders-IRVINES, LUNA * Feed companies - national foods, capital foods, pro-foods * Agro-dealers- Fivet		*Procuring of pullets * Feeding of birds * Health management * Hand picking of eggs * visual grading and sorting * Maintenance of poultry houses * Record keeping * Marketing and transportation		* Standard brown eggs *No labels to satisfy customer quality * No Branding and certification of egg * No Product differentiation for each customer segment.		* Long term relationships with traders *No product promotions - inviting * No Contracts with customers * Buyers are free to visit but no scheduled visits		* Low income * High income- schools, hotels chain supermarkets, * The most important segment is the high income- it pays cash
b) Key partners *LPD *Vet *Vet services *ZPA, *LGDA and local leaders		KEY RESOURCES						
c) Key Activities of partners *Support activities- extension, research information *Animal health services. *Market information		a) Physical Land (1-1,5ha) *Wells *Poultry houses *Cattle (3-4) *Farming equipment *Waterers b)Human resources. No labour hired c) Financial resources d) Animals (POL Norvagen breed)						
d) Key resources partners and suppliers Finance, research information Feed, point of lays, livestock and crop inputs				UNIQUE PROPOSITION * Yellowish yolk		CHANNELS <i>Place</i> * Farm gate 5% * Egg centre 15% *Traders 50% * Local shops 25% HOW * Institutions 5% * Through collection and delivery * Invoices are provided on request * Payment made after 7 days.		
COST STRUCTURE						REVENUE STREAMS <i>price</i>		
* The important costs inherent in the business is the variable costs i.e \$ 1955.00/year * Expensive key resources - Point of lay (\$ 360) Feed \$1 350/year 1800kg per year. * Expensive key activities - transportation of eggs \$76.00 *Cost price \$ 0,122 other costs Marketing \$ 52.00						*Customers are willing to pay for size and strength, number * Trader prefer to pay cash at times after a month * The average price for one egg is\$ 0,15 and\$0,17 farm gate i.e. \$1 for 6 eggs * Sales 42 420 eggs per week from 202 farmers		

The business model canvas gave farmers an overview of their egg production business and relating to the various components such as activities and value proposition they managed on their own to identify the some key areas that need improvements.

4.1.6 Major problems faced in egg marketing

Table 4.5: Problems faced in marketing eggs by smallholder producers in Gurube

Main problem	Cause	Effect
Limited market information	<ul style="list-style-type: none"> - Poor market information systems - High extension worker to farmer ratio 1; 1200 - Inadequate alliance with stakeholders 	<ul style="list-style-type: none"> - Limited market decision making
High cost price	<ul style="list-style-type: none"> - High cost of feed - High transaction costs 	<ul style="list-style-type: none"> - Low marketable volumes - Low income
High transport costs	<ul style="list-style-type: none"> - Poor infrastructure 	<ul style="list-style-type: none"> - Low profit margins
Delay in payments of supplied eggs	<ul style="list-style-type: none"> - Low disposable income from local consumers and intermediaries - Price fluctuations 	<ul style="list-style-type: none"> - Limited amount for reinvestment
Low quality (breakages, non-uniformity in size, rotting)	<ul style="list-style-type: none"> - Poor grading, handling and storage facilities, poor transport conditions 	<ul style="list-style-type: none"> - High rejection rate of eggs
Shortage of egg trays	<ul style="list-style-type: none"> - Limited supply in Gurube 	<ul style="list-style-type: none"> - High rate of breakages

4.2 Egg chain stakeholders interviews

The results presented here are from data that was collected during interviews and observations with stakeholders in the egg chain value chain of Guruve district.

4.2.1 Interview with the Branch manager OK Zimbabwe Chain Retail supermarket

The Branch manager Mr. Obey Nhakura was interviewed and he indicated that their Branch requires 800 loose crates per week and they got supplies from commercial farmers and from some reputable suppliers like Irvines and Suncrest according to their orders. They buy between \$ 4,50 to \$ 5,00 depending on the supplier.

Quality attributes, quantities and presentation preferred by egg customers

- Mostly the issue of brand is of importance and the presentation of the packaging which has to be attractive to the consumers.
- Size is another quality attribute, colour and the cleanliness of the eggs as some customers prefer white and others brown colour.
- Customers prefer crates of 30 and 12 units boxes

Challenges encountered in procuring from smallholder producers

- They cannot meet demand of 800 loose crates required for this branch, they cannot deliver the right quality, they cannot not shrink-wrap the crates and as a result, there are a lot of egg breakages, The issue of product uniformity is still a challenge for them may be because of poor grading of eggs.

Business arrangement preferred for suppliers of eggs

- The manager reiterated that they require reputable suppliers who can meet the demand at their branch and they also prefer to have contracts with their suppliers. They also prefer shrink wrapped eggs as opposed to loose eggs to mitigate the risks of poor handling and for acceptability to consumers.
- Prepared to offer \$ 4,50 for the lowest grade and \$ 5,00 for standard eggs, payment within seven days as bank transfer.

Opportunities for smallholder farmers to supply eggs to the chain retail supermarket

- Smallholder farmers need to invest in grading and packaging to shrink-wrap their crates as well as invest in distribution motor vehicles to cater for delivery time and also on storage equipment. Contracts are also another option for them to supply these retail chain supermarkets.
- They also need to boost their production level if they are to meet demand of these Chain supermarkets like OK.



Figure 4.6: Shrink wrapped eggs in OK retail chain supermarket

4.2.2 Interview with Zimbabwe Poultry Association chairman

The chairman Mr. Solomon Zawe was interviewed on the services offered by the association, challenges in marketing eggs, perceived opportunities for the smallholder egg producers and provision of market information to its members.

Services offered by ZPA

- The chairman reiterated that 65 percent of its members are smallholder farmers although the membership base includes members from all sectors.
- Lobbying for policies which help to expand the poultry industry like the current implementation of surcharges on poultry products imports was through ZPA to protect the local farmers.
- Training members on business management skills so that they become competitive.
- Provision of market information and updating them so they are abreast with development in the industry.

Challenges faced in marketing of eggs by the smallholders

- Farmers lack information on volume, quality and prices.
- High transaction costs especially the location of their farms increases the costs of transport and so the cost price.
- High costs of feed, grain prices raw materials and other non-feed costs like EMA costs is increasing the cost price of eggs and this is affecting the marketable quantities i.e. competitiveness.
- Market regulations like the standards as most retail supermarkets these days are becoming interested in standards

Market information flow to members

- Information gets to the big grower who is in direct contact with smallholder member farmers will then diffuse the information.

Opportunities for smallholders to access the high market segments

- Farmers need to be organised to cut on costs so as to lower the cost price per crate which is current \$2.67
- Farmers also need quality control systems to meet standards required by the chain retail supermarkets.
- Improve market relations and the smallholders can supply or sell through a producer organisation or through an established large egg producer whom they have good relations to lower transaction costs like monitoring and provision of information.
- Use of emerging breeds, smaller birds which reduce breeder feed costs as well as housing costs through increasing stocking rates. Using Norvagen layer genetics which has on farm potential of 396 birds per year yet average yield in Zimbabwe is 300eggs per year.

4.2.3 Interview with Guruve egg collection centre

The Guruve egg collection centre was initiated by LGDA for farmers to improve marketing of eggs and the employee Mrs Tafadzwa Chirava was interviewed on a number of issues which include

Quantities sold per week

- Only 60 individual farmers have remained supplying their eggs to the egg collection centre
- No target customer segment, They are selling 200 crates per week to small local shops at \$ 4.00 per crate the price agreed by the supplying farmers and at peak 300 crates were sold. No grading is done at the egg collection centre, all are sold as standard eggs no grading.
- Most supplying farmers want \$ 5,00 but it's difficult to get the buyers at this price.

Payment method to the farmers

- Payment is done after seven days one person comes and sign on behalf of the farmers. Banking was done in the past but high withdrawal charges of 10% farmers started complaining.
- Some farmers are selling to Harare at \$5 and others even \$6

Major challenges faced at the egg collection centre

- Farmers are saying feed and transport is expensive
- Storage is affecting the quality of eggs especially the freshness as 30% of the eggs are usually returned. The centre has got one pallet only which is not enough and farmers are using old and dirty crates. Handling of eggs by farmers is generally poor as eggs are broken before reaching the centre.
- Some customers need 12 eggs and the crates are not available.
- The storekeeper does not have an marketing experience and rent was \$ 130.00 per month

Marketing mix used at the egg collection centre

Table 4.6: Marketing mix used at the egg collection centre in Guruve

Product	These are standard eggs with average weight of 60-65g. They are packed in recyclable paper crates and usually sold in numbers of thirty. selling price \$ 4.00. No selling of single units at the egg centre. No brand, labelling or any other label on the packaged eggs.
Price	The price of a crate of egg is \$4.00 even when bulk purchasing.
Place	Eggs are available on the shelf and on the pallets on the floor but consumers and other buyers are free to come in and select crates of their choice.
Promotion	The egg centre does not promote eggs besides the board written outside the outlet no advertisement and consumers are not provided with information of their products. No deliveries made
People	There is no specific target consumers for the eggs, anyone can come and purchase eggs from the egg collection centre. The major buyers are the small local shops termed tuck shops.



Figure 4.7: Egg collection centre in Guruve

4.2.4 Interview with Large scale egg producer

Mr Stan Kudenga of Mamanora farm a large scale semi integrated farm with a capacity of 15000 layers currently with 6000 laying birds, 70 pigs and 60 cows was interviewed on the challenges and opportunities for linking with smallholder farmers see annexure 14 completed Canvas business model for the farm. Mr Stan supplies a total of 214 crates per day between \$4 to \$5 per crate to retail supermarkets in Ruwa, Mabvuku, Tafara and Epworth and to schools in Harare like Oriel and Allan Wilson schools on contract basis and to the open market in Mbare.

Perceived challenges for linkages with smallholder egg farmers in Guruve

- Low quality and non-uniformity and inconsistency in supplying the eggs
- Prices to be offered to the farmers might be low for the smallholders farmers
- Farmers are not organised and it's the main challenge in collecting eggs from them
- Who will meet transport costs incurred
- Delayed payments from institutional markets

Opportunities for linkages

- If farmers are willing to get paid within his range of \$ 3.80 to \$4.20 only on contract basis to mitigate market risks.
- Farmers must invest in grading equipment to meet the requirements of the market and for easy pricing of the various grades
- Farmers should be organised for economies of scale
- Farmers should also invest in bio-security facilities as required by the law

4.2.5 Interview with Guruve hotel

Guruve hotel is one institutional market for eggs in Guruve district with a capacity to accommodate 45 people per day. The hotel Ms. Rosemary Chitohwa manager was interviewed and indicated that they provide full course meals inclusive of breakfast to its booked residents. It is located in the periphery of the Guruve and linked by a highway to Mvurwi, Harare and to Mahuhwe in Mbire district. The manager was interviewed on

Quantities of egg required by the hotel per day

- Three crates per day during the week and four for the week-end days as they have more bookings on Friday and Saturday.
- They use these eggs for breakfast and for egg salads for their meals when serving rice.
- Breakfast is sold at \$2.50 (four slices bread, two eggs fried or boiled, two cups tea, and baked beans.
- This translates to \$1.11 for the two eggs sold and \$15.00 crate as their selling price for boiled or cooked eggs.
- They buy eggs from ZLT a mini supermarket in Guruve at \$6.00 per crate.

Opportunities for purchasing eggs from the smallholders

- The manager indicated that they knew that there are farmers with eggs in the area but with no specific name of producer or supplier.
- If the farmers are willing for an arrangement to supply the hotels but their quantities are very small only twenty four crates per week.

Quality attributes when purchasing eggs?

- The manager indicated that they are used to buying Irvines eggs which are big and nicely packaged and in most cases there are no breakages as they result in losses.
- Consumers also complain of small eggs for breakfast so size only is the most important consideration.



Figure 3: Guruve hotel one of the Institutional markets

4.3 Level of competitiveness of the smallholder egg value chain

Information collected was consolidated to assess the competitiveness or the competitive position and market attractiveness of the smallholder egg chain in Guruve using porters' five force analysis as indicated in figure 4.9

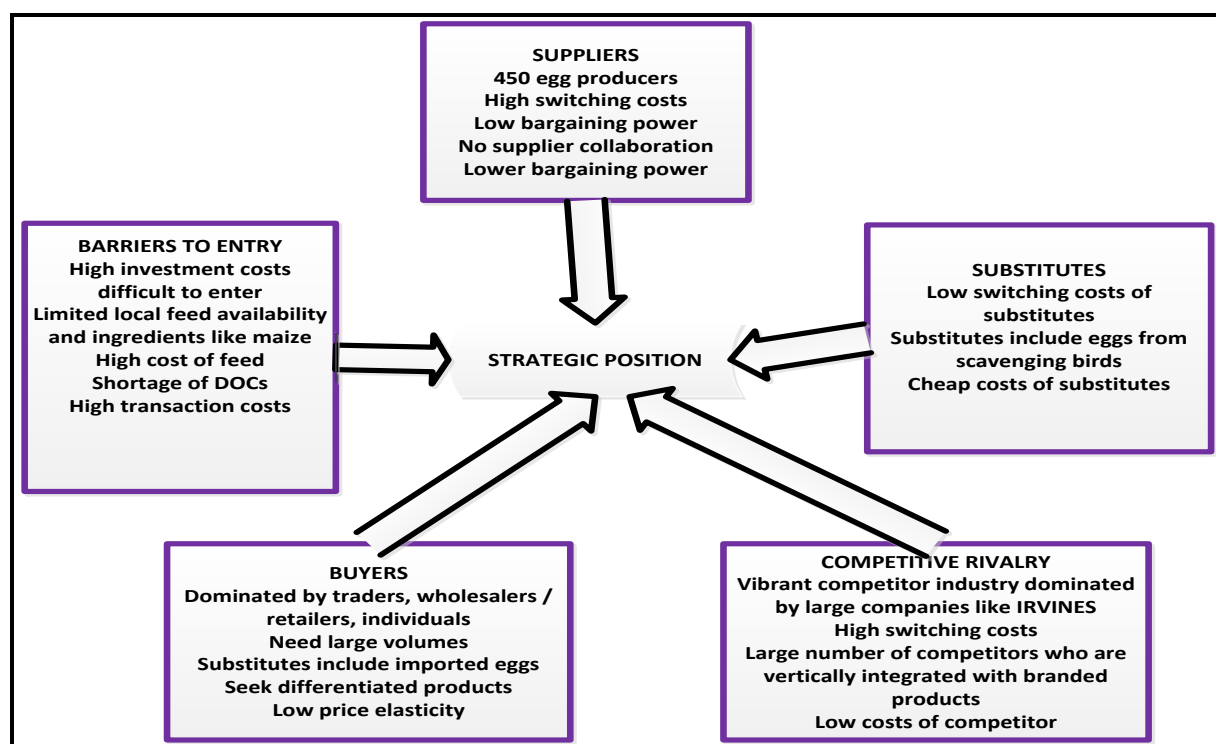


Figure 4.9: Porters five force model analysis

4.4 Consolidated Swot Analysis for the egg value chain in Guruve district

The table 4. below shows the consolidated strengths, weaknesses, opportunities and threats of the smallholder egg value chain in Guruve district. The strengths and weaknesses are internal to the egg value chain whilst the opportunities and threats are external. The farmers

should capitalise on the strengths and opportunities and develop strategies to eliminate or minimise the weaknesses and threats to improve market access

Table 4.7: SWOT analysis for the smallholder egg value chain in Guruve

Strength	Opportunities
<ul style="list-style-type: none"> - Farmers are capable of producing eggs - Farmers have the infrastructure available for egg production - There is an increasing demand for locally produced eggs 	<ul style="list-style-type: none"> - Increasing demand or changing consumer preference for local products such as eggs - Government promoting local entrepreneurs through indigenisation policy - Available cheap labour
Weaknesses	Threats
<ul style="list-style-type: none"> - No collaboration in the supply base - No branding of products - high cost of inputs such as feed - No Quality control systems and effective traceability system - low egg quality such as weak shell, size not uniform. - Shortage of day old chicks and point of lays. - Underdeveloped market infrastructure. - High interest rates from financial institutions - Limited access to working capital - Limited access to market information - High transport and or transaction costs - Limited extension service- one LEW covering two wards. 	<ul style="list-style-type: none"> - Persistent drought - High incidences of poultry diseases such as new castle. - Cheaper imports from South Africa

CHAPTER 5 OPPORTUNITIES FOR MARKET LINKAGES

This chapter compares the results from the Focus group discussion with the smallholder egg producers, interviews with various stakeholders in the egg value chain with information reviewed in the literature and presents and similarities or differences.

5.1 Market Relations

According to KIIT and IIRR (2008) strong chain relations are characterised by strong organizations, trust, open and frequent communication and cooperation for mutual growth. Based on these characteristics the smallholder egg value chain has weak chain relations i.e. weak business interaction among the various chain actors. there is no frequent communication and co-operation between actors and stakeholders in the chain which is required for mutual growth. Farmers have weak relations with breeders, feed suppliers, banks, institutions such as Guruve Hotel, St Phillips and the retail supermarkets. Farmers need strong relations with other actors and stakeholders to enhance frequent communication and co-operation in tackling issues of common interest within the chain such as poor quality eggs. Formal contracts can improve chain or market relations therefore long term business relations and market linkages. This will help on agreement on standards required such as shrink wrapping and will increase value added, competitiveness and sustainability. Once farmers and the target market i.e. have strong relations they can join forces for service provision from organisation such as Standards Association of Zimbabwe on quality control and certification. Producer organisations can enhance contractual links in this chain and improve chain or market relations for smallholder egg producers in Guruve district.

5.2 Revenue streams through identified opportunities

Three marketing channels identified from the interviews include St phillips, Ok supermarket and the large producer but offering different prices resulting in different value shares per egg crate as indicated in table 5.1..

Table 5: Comparison on value shares and revenue structure when selling through different channels

CHANNELS	VOLUME REQUIRED	SURPLUS/ DEFICIT	REVENUE/ per crate	GROSS MARGIN (Per household)	VALUE SHARES
St Phillips school	100	+1300	\$ 5.00	\$ 680	80%
OK Supermarket	800	+600	\$ 5.00	\$ 680	80%
Large Producer	2000	-400	\$ 4.20	\$368	93%

The smallholder egg chain is competitive and has strong barriers to new entrants such as feed costs although the industry is dominated by vertical integrated large companies like Irvines. Selling to OK chain supermarkets and St phillips boarding school based on the \$5.00 per crate per crate offered results in higher gross margin of \$680. than when the farmers are selling through the large producer they will get \$ 368 gross margin although the value shares are higher than the other two channels. Considering that currently 1400 crates are being produced by the smallholder farmers excess crates will be sold to through the large producer who has ready market but with a deficit to supply that market. The large producer Mamanora

farm is able to market all the eggs from the smallholders but at a lower price of \$ 4.20 providing less market incentive to the smallholder egg producers for reinvestment. So considering the comparative table above the priority will be to supply Ok supermarkets and the surplus to other channels to spread the risks if one market fails.

5.3 Cost structure and risks

The egg production business is producer (cost) driven not consumer driven. It is not focusing on value proposition to meet what is required in the high price market segments which is high quality eggs. Variable costs are the most expensive inherent costs in the egg production business by the smallholder farmers. Feed cost of \$1350 per household, purchasing birds \$360 and transport costs of \$76.00 resulting in \$ 3.67 cost price per crate. This can be attributed to limited collaboration that is producers supply their eggs individually. This is in line with Schalkwyk et al (2012) that smallholder farmers tend not to be organised in the market, sell their limited produces individually without linking to other actors, and so lack collective action. This results in high transaction costs when compared to when farmers are group purchasing feed transport costs becomes low as they will have high bargain power to negotiate through economies of scale. This is also in line with what Delgado (1999) highlighted that these high transaction costs result from individual produce transportation and selling, difficulties in getting trading partners and low bargaining power. This is in contrast to commercial farmers like Mamanora farm who buy feed in bulk. As indicated by the assistant depot manager Mr Martin Mukonowatsauka highlighted that they only provide transport to customers with 30 tonnes and above and within 50km radius and the farmers in their respective wards are in that range. So this cost structure or high transaction costs that prevail in this smallholder egg chain results in the market failing to allocate scarce resources to alternative ends. Producer organisation as economic organisation can lower costs though building up market power and mitigate risks such as fluctuating prices as indicated by farmers.

5.4 Information flow

From the focus group discussions producers were aware of market information such as market prices, quantities and quality which is vital in market participation and behaviour to take informed egg marketing decisions they had no access to reliable sources of information. Farmers in this egg chain rely on informal networks such as traders and family members to get market information. In this instance farmers get lower prices of eggs \$4.00 as they are not able to negotiate from a well informed decision. The resultant information asymmetry with the end market can be attributed limited co-ordination, lack of sustainable market relations and communication, weak public information systems and inadequate alliance with stakeholders in the chain like LPD which provides accurate market weekly updates to livestock farmers. This is in contrast to Kotabe (2003) that communication and information sharing is a vital chain coordination mechanism that also contributes to reduction of transaction costs leading to greater chain operational efficiencies. Closer co-ordination through producer organisation will help in reducing information asymmetry to ensure delivery of high quality and homogenous products and higher price negotiating power and market linkages. Formal and informal communication or information flow takes place for the economic benefit of the members.

5.5 Gender aspects

Women play an important but invisible role in this egg value chains such as the smallholder egg value chain in Guruve like layer management, thus playing a key role in upgrading

strategies. In terms of accessing resources both men and women in the smallholder egg chain in Guruve indicated they had equal opportunity to productive assets, training. This is in contrast to IFAD (2007) that in comparison to men, women face higher disadvantages in particular in terms of mobility, access to productive assets, productive resources and access to market information with the result that they find it difficult to access and maintain profitable market niches and capture a larger slice of income for the household. In terms of intrahousehold bargaining or relationship practises related to labour, control and decision making. They tend to change as flock size increase or as intensification increases with regard to roles and responsibility and ownership. Ownership and marketing roles decreases and this might be related to security issues in terms of income handling and men having better marketing and negotiation skills.

5.6 Product quality attributes

Based on the interviews the targeted institutional markets such as St phillips and OK chain retail supermarkets were much more concerned on quality issues i.e. egg size and shell texture which determines grades and ultimately prices. This is in line with Hutchings (2002) that total size appearance generates expectations of egg consumers. St phillips high school was also concerned on shell quality as some eggs were breaking during boiling. Packaging was more of a concern with the rail supermarkets for easy of handling and reducing egg breakages and also for product appearance to the consumers. Improving the size, shell strength and packaging will enable access to high price segments.

5.7 Business arrangements preferred in the high price segments

Ok retail supermarket based on the interviews requires 800 lose shrink wrapped crates on weekly basis and prefer to have contractual agreements with suppliers. Farmers should however be able to consistently supply to this supermarket which requires collective marketing to meet the required amount. This can be through a formal producer group or co-operative as highlighted by Barda (2002) that the new procurement system expect larger supply volumes and favors commercial producers and a few co-operatives access to retail supermarkets as they demand specified quality(size, appearance, packaging) and quantity of products. Contractual arrangements through a producer organisation provides an opportunity to ensure egg quality and quantities to meet the requirements of OK supermarkets and St Phillips school.

5.8 Strategies used to promote eggs in the chain

Promotion of eggs is an effective strategy to improve relations with consumers of the products and services offered. There is no much promotion of eggs in this chain like branding of eggs as evidenced at the egg collection centre. No marketing information is provided to reach egg customers such as product information the large companies like Irvines who advertise through a number of channels electronic and printed media to reach customers. Promotions enhance building sustainable market relations and to persuade customers. The only strategies being done in the chain include packaging in paper crates only which is not effective and so there is need to improve egg promotions through different packaging to persuade customers in the high price segments.

5.9 Value chain development

Based on the results from the business canvas model and the organisation of farmers in the supply base i.e. individually supplying and purchasing of inputs which results in variability in egg quality and quantity and increased costs in egg production The smallholder egg chain

has an requires upgrading if it's to improve its position or competitiveness to meet the procurement requirements in the high price market segment. This is supported by Hawkes and Ruel (2011) that upgrading it is improving the competitiveness of a value chain by moving it in a new direction towards a new market linkage, market segment or customer. The upgrading strategies include the following

Functional upgrading: The activities in the production eggs are not related to value proposition required to meet the needs in the high price market segment such as Ok retail chain supermarket in order for the egg producers to capture more value. There is need for upgrading the grading and packaging process of eggs such as shrink wrapping to improve the acceptability of eggs. This will also improve on product handling and reduce egg breakages during transportation. Taking another function in the chain such as transportation will improve delivery time as required by the high price market segments

Product upgrading; Improving the shell quality of the eggs will improve the unit value for the eggs as required by St phillips high school and this can be through farmers practising good agricultural practices.

5.10 Methodology used

Participatory form of value chain analysis using appraisal tools such as chain mapping during focus group discussions proved effective as farmers showed enthusiasm and were willing to provide adequate information in identifying constraints and possible linkages. The focus group discussion provided an enabling platform for producers to share ideas and experience in helping to come up with linkages. This can be attributed to ownership as producers felt involved in doing the exercises such as chain mapping and chain relationship mapping.

5.11 Innovations

The methodology used enabled the researcher to discover innovations that are being done in this egg chain which include the use of muccina a local tree to treat coughs. Most egg producers have adopted the use of muccina and they have testified that it is effective for their layers. Also the use of garden wastes mainly vegetables in improving the yolk colour of eggs from pale to deep yellow. Most of the egg producers are also into market gardening and have also started to provide vegetables to their birds.

CHAPTER 6. CONCLUSIONS AND RECOMENDATIONS

The first part of this chapter draws conclusion from discussion on findings from desk research, focus group discussion and interviews with stakeholders in the smallholder egg value. Possible value chain oriented recommendations to improve the competitiveness of the smallholder farmers and enhance market linkages to the high price market segment for increased income were formulated. A market based business model was also developed for the smallholder egg farmers to adopt.

6.1 Conclusions

It can be concluded that there are value chain constraints i.e. value chain dynamics with regard to competitiveness of the smallholder egg value chain in Gurube in linking to high market segment.

Market or chain relations

Farmers have weak chain relations i.e. business interactions with institutions and chain retail supermarkets and other actors in the chain to foster mutual co-operation and growth of the egg chain. The potential to enhance chain partnership and sustainable business relations is low in this smallholder egg chain considering less frequent communication and co-operation in the chain. A producer organisations can however enhance contractual links to improve chain relations among the various actors in this egg chain.

Costs, revenue and risks

Smallholder egg production is producer (cost) driven and not consumer driven i.e. it is focused on reducing costs of inputs rather than value driven to meet the value proposition of the high price segment which is quality eggs i.e. size, shell strength and shrink wrapped eggs. Eggs in this chain are not being produced in a cost effective way i.e. resulting in a higher cost price of \$3.67 per crate of 30 eggs. The major costs inherent in the business are the variable cost which are feed, point of lays and transport costs. These are a result of limited collaboration as producers sell and purchase inputs individually. These costs can be lowered through producer organisations through building up market power and overcoming risks such as fluctuating prices being faced in this chain.

Information flow

There is no bidirectional flow of information within the chain resulting in asymmetry of information with the end market as farmers require information on prices, quantity and quality which is important for market participation. This is attributed to limited coordination, weak public information systems and weak chain or market relations. So farmers are not able to make market based decisions. Producer organisation can improve co-ordination of activities such as communicating market information to egg producers.

Gender

Intrahousehold relationship practices related to division of labour, control and decision making tend to change with increase in flock size. Men are more involved in marketing activities and ownership of layers as the outputs increases because men are perceived to have better marketing skills than women. Both men and women had equal opportunity in accessing productive assets, training and other services.

Quality attributes

The quality attributes of eggs preferred in the high price segment include size and shell strength and consistent supply on contractual agreements. Shrink wrapped eggs for improved appearance and ease of handling are also preferred. Eggs from the smallholder farmers need to improve in size, shell strength and packaging to enable access to high price segments.

Strategies used to promote eggs

The strategies being used to promote eggs in the chain include packaging into paper crates which is not effective to persuade customers in the high price segment to purchase eggs. So there is need to improve promotion of eggs from the smallholder producers through different packaging to improve acceptability and other promotion strategies.

Business with retail supermarkets

Retail supermarkets require consistent supply of larger amount of eggs with specified quality. Collective marketing on contractual basis can help smallholders to meet these procurement requirements of the retail supermarkets such as OK Zimbabwe.

Value chain development

The organisation of farmers in the supply base i.e. farmers supply eggs and procure inputs individually which results in variability in egg quality and quantity. Chain upgrading need to focus on functional upgrading and product upgrading for the farmers to capture more value i.e. improve competitiveness.

The methodology used in this research was effective in obtaining additional information and also in identifying constraints and possible linkages. Farmers were enthusiastic and were willing to provide information through the participatory approach and appraisal tools used. This led to discovery of innovations being done by farmers such as the use of mucuna tree to treat coughs i.e. ethno veterinarian medicine and the use of garden vegetables to improve yolk colour.

6.2 Recommendations

The following recommendations will be considered by the provincial and district staff of LPD as interventions for market linking strategies to overcome value chain constraints and enable linkage to the high price market segment i.e. chain supermarkets and institutions

1. Collective marketing through the formation of an egg producer organisation for improved co-ordination of activities such as improved flow of market information and this will enable to guarantee product quality and safety and enhance the design of market strategies in line with the standards demanded in the high market segment. An egg producer organisation will help to reduce market risks, strengthen bargaining power in the relationship with customers and suppliers and reduce costs such as transport and collective bargaining in purchasing quality inputs such as feed through economies of scale. To foster innovations among producers which often requires investment that bring risks that an individual cannot borne.
2. Collective investment in process upgrading equipment see figure 5.1 egg grading equipment to meet the quality in the high price segment and improve product uniformity. Packaging equipment will improve presentation and acceptability of eggs. This will also present an opportunity for branding eggs with shrink wrapping machine This will also help

improve their image and offer a competitive and consistently quality eggs on a regular basis.



Figure 6.1:BS 400 shrink wrapping machine and Moba 68 grading machine suitable for smallholder egg producers (supplier-Craig Grobler South Africa)

Total costs of Machines = BS 400LA		USD \$10 000.00	(FOB price)
MOBA 68		USD \$ 8 000.00	(R 80 000.00)
<hr/>			
TOTAL		USD \$ 18 000.00	
<hr/>			
Contribution per farmer		USD \$ 40.00	

3. Training women on marketing and business skills to improve the intrahousehold relationship practises through participating in marketing of eggs.
4. Training egg producers on Good agricultural practices (GAP) to enhance egg quality i.e. size and shell strength for improving egg acceptability in the high price market segment.
5. A further step in this study will be to facilitate farmers to secure a local brand to protect and differentiate their eggs from the others.

Proposed chain map

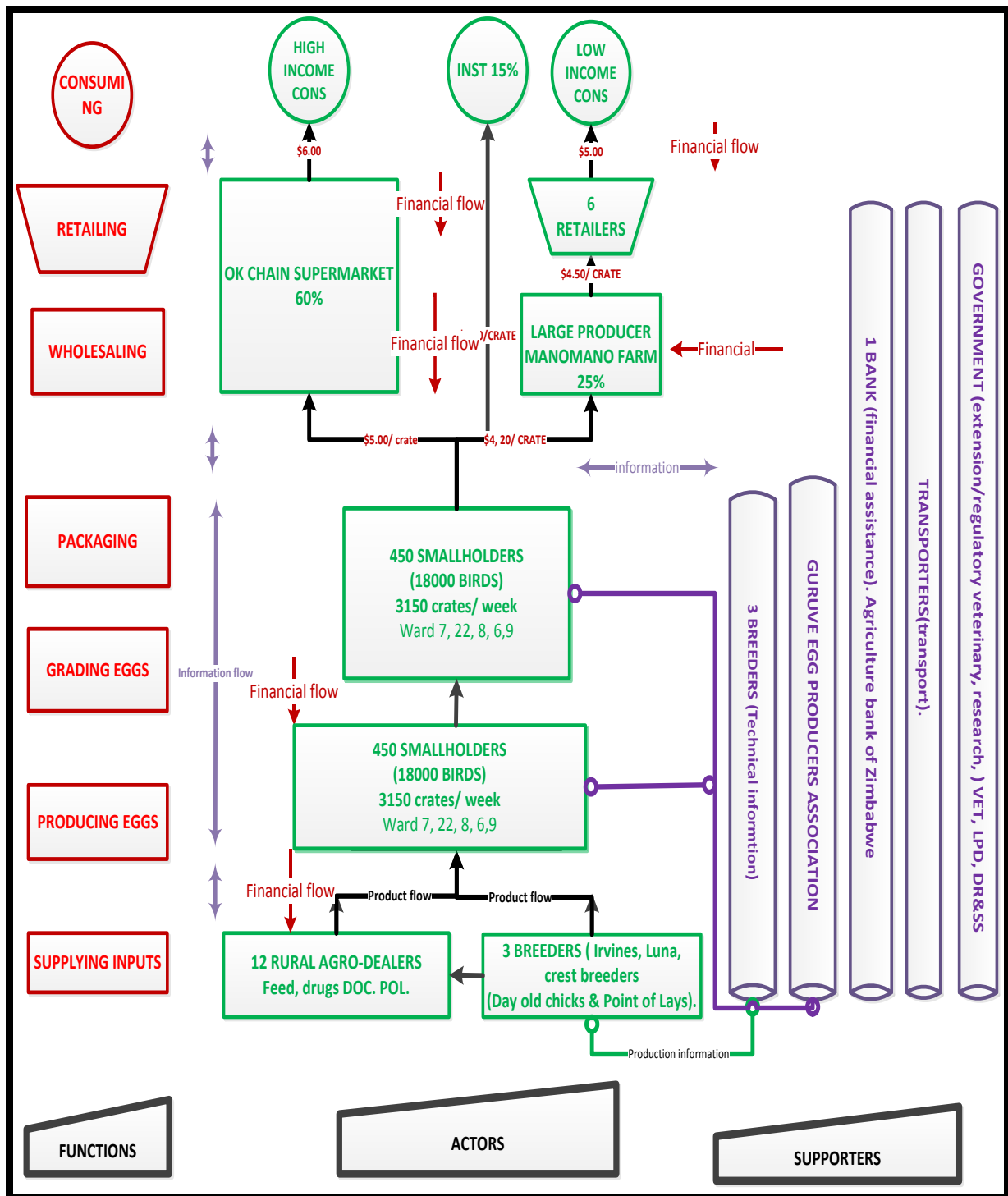


Figure 6.2: Proposed value chain map

Table 6.1: Proposed business model canvas

		Product	promotion	People
KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITION	CUSTOMER RELATIONSH	CUSTOMER S
a) Suppliers *Breeders-IRVINES, LUNA * Feed companies - national foods, capital foods, pro-foods * Agro-dealers- Fivet b) Key partners *LPD *PO (<i>New partner</i>) *Vet services *ZPA, *LGDA and local leaders c) Key Activities of partners Support activities- extension, research information Health services. d) Key resources partners and suppliers Finance, research information, market inform Feed, point of lays, livestock and crop inputs	*Procuring of pullets * Feeding of birds * Health management * Hand picking of eggs, * grading and sorting and shrink wrapping (<i>New activity</i>) * Maintenance of poultry houses * Record keeping * Marketing and transportation	* Shrink wrapped big brown eggs (<i>New</i>) * Shrink wrapped standard brown egg	* Long term relationships with traders *No product promotions - inviting * Contracts with customers <i>New</i> * Promotions through school and farm visits *Advertisements <i>New</i>	* Low income * Niche (Ethical) * High income- schools, , chain supermarkets * The most important segment is the high income- it pays cash
	KEY RESOURCES			
	a) Physical Land (1-1,5ha) *wells *Poultry houses *cattle *Farming equipment *Waterers b)Human resources. No labour hired c) Financial resources d) Animals (POL Norvael breed)	UNIQUE PROPOSITION	CHANNELS <i>Place</i>	
		* Yellowish yolk	HOW * Through collection and delivery * Invoices are always provided * Payment made after 7 days.	
COST STRUCTURE			REVENUE STREAMS <i>price</i>	
* The important costs inherent in the business is the variable costs i.e. \$ 1955.00/year * Expensive key resources - Point of lay (\$ 360) Feed \$1 350/year 1800kg per year. * Expensive key activities - transportation of eggs \$36.00 *Cost price \$ 0,122 other costs Marketing \$ 52.00			* Customers are willing to pay for quality (<i>New</i>) size, shell * payment after seven days * The average price for one egg is\$ 0,15 and\$0,17 farm gate i.e. \$1 for 6 eggs * Sales 3150 eggs per week from 450 farmers <i>New</i>	

REFERENCES

- Ashraf, N., Gine, X. and Karlan, D., 2008. *Finding missing markets*, Evidence from an export crop adoption and market intervention in Kenya. Working paper (16) 08-065. Harvard business school, Cambridge. MA
- Baard, R., James., 2002. *Major Changes in Agriculture Raise Big Questions for Nation's Cooperatives*. United States of America Department of Agriculture. Co-operative communicators association, Burlington.
- Baden, S., 1998. *Gender Issues in Agricultural Liberalisation*. Topic paper prepared for Directorate General for Development of the European Commission, Report No. 41, Institute of Development Studies, Brighton, U.K.
- Bijman, J. and Wollni, M., 2008. *Producer organizations and vertical coordination*, An economic organization theory perspective. Paper presented at the International Conference on Cooperative Studies (ICCS), 7-9 October 2008, Germany. [Online] available at <http://coqa.nl/wpcontent/images/bijman_wollni_producer_organisation_and_vertical_coordination_20082.pdf>[Accessed 16 June 2013]. .
- Cosins, B., 2010. *What is a small holder*. [online] Available at:<http://www.rosalux.co.za/wp-content/files_mf/1273136997cousinsonssmallholder.PLAAS_workingpaper16pdf>[Accessed 16 June 2013].
- Delgado, C., 1999. *Sources of growth in smallholder agriculture in sub-Saharan Africa*, the role of vertical integration of smallholders with processors and marketers of high-value added items. *Agrekon* (38): 165-189.
- Dev, S.M. and Chandrasekhar, N., 2004. *Food Processing in Andhra Pradesh*, Opportunities and Challenges. Working Paper No. 57. Centre for Economic and Social Studies. Hyderabad. India
- Food and agriculture organisation, 2004. *Country report on the state of the Worlds animal genetic resources*. [online] Available at <<ftp://ftp.fao.org/docrep/fao/010/a1250e/annexes/CountryReports/Zimbabwe>. >[Accessed 13 July 2013].
- Government of Zimbabwe, 2005. *The agricultural sector of Zimbabwe*, statistical bulletin. Harare.
- Government of Zimbabwe, 2010. *The agricultural sector of Zimbabwe*, statistical bulletin. Harare.
- Hawkes, C. and M. Ruel., 2011. *Value chain for nutrition*. 2020 conference paper 4“Leveraging Agriculture for Improving Nutrition and Health,” February 10–12, 2011, New Delhi, India
- Herman, D., Schalkwyk, V., Groenewald, A., Gavin C., Obi, F, and Tilburg A., 2012. *Unlocking markets to smallholders*. Lessons from South Africa. Wageningen academic publishers, The Netherlands
- Hutchings, J., 2002. *The perception and sensory assessment of colour*. Colour in food, Improving quality. Woodhead Publishing Ltd. England.

International Fund for Agricultural Development, 2010. *Value chains linking producers to markets*. [online] Available at <http://www.ifad.org/lrkm/factsheet/valuechains.pdf>>[Accessed 16 June 2013].

International Fund for Agricultural Development, 2010. *IFAD Decision Tools for Rural Finance*, Rome, Italy. [Online] available at <http://www.ifad.org/ruralfinance/dt/index.htm>>[Accessed 29 June 2013].

International Centre for Tropical Agriculture. 2007. *Identifying Market Opportunities for Rural Smallholder Producers*. Cali, Colombia: CIAT.

International Fund for Agriculture Development, 2007. [online] Available at <http://www.ifad.org/lrkm/factsheet/valuechains.pdf> >[Accessed 02 July 2013].

Kaplinsey, R. and Morris, M., 2001. *A Handbook for Value Chain Research*. Prepared for IDRC by the School of Development Studies, University of Kwazulu- Natal.

Kapuya, T., Saruchera, D., Jongwe, A., Mujeyi, K., Ndobongo, L.T. and Meyer, F.H., 2010. *The grain industry value in Zimbabwe*. Unpublished draft. Prepared for the Food and Agricultural Organisation (FAO). [Online] Available at http://www.Fao.org/fileadmin/templates/est/AAACP/eastafrica/UnvPretoria_GrainChainZimbabwe_2010_.pdf> [Accessed on 12 May 2012].

Kelly, V., Adesina, A. and Gordon, A., 2003. *Expanding access to Agricultural Inputs in Africa*. A Review of Recent Market Development Experience', *Food Policy* 28 (4): 379-404.

Key, N. and D. Runsten., 1999. *Contract Farming, Smallholders, and Rural development in Latin America*, The Organization of Agro processing Firms and the Scale of Out grower Production" *World Development* 27(2): 381-401

KIT & 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. 2006. *Trading up*, Building cooperation between farmers and traders in Africa. Royal Tropical Institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi.

Kotabe, M., Martin, X. and Domoto, H., 2003. *Gaining from vertical partnerships*, knowledge transfer, relationship duration, and supplier performance improvement in the U.S. and Japanese automotive industries. *Strategic Management Journal*, 24, 293-316

Kranton, Rachel, E., 1996. *The Formation of Cooperative Relationships*, *Journal of Law, Economics and Organization*, Oxford University Press, vol. 12(1), pages 214-233

Kyvsgaard, N., 2007. *Review of small-scale poultry production in Latin America*. Draft paper. Available upon request from the author at [nck.life.ku.dk](mailto:nck.life@ku.dk).

Laven, A., A. van Eerdewijk, A., Senders, C., van Wees. and. Snelder, R., 2009. *Gender in Value Chains*, Emerging Lessons and Questions, a draft working paper, AgriProFocus. Netherlands.

LPD, 2011. *Livestock production and development, Annual report*, 2011. Harare, Zimbabwe.

Mangoyana, S. and Meda, F., 2001. *Food security and sustainability in Zimbabwe*. Harare

Ministry of Agriculture, Mechanisation and Irrigation Development, 2012. *Draft Comprehensive Agriculture Policy Framework*, 2012-2013, Harare Zimbabwe

Montshwe, B.D., 2006. *Factors affecting participation in mainstream cattle markets by small-scale cattle farmers in South Africa*, MSc Agriculture thesis. University of Free State, Bloemfontein, South Africa

Moyo, S. and Yeros, P., 2009. *Livelihoods and land reform*, The poverty impacts of land redistribution in southern Africa. Zimbabwe ten years on, Results and prospects. [Online] Available at <<http://www.lalr.org.za/news/zimbabwe-ten-years-on-results-and-prospects-by-sam-moyo-paris-yeros>>. [Accessed on 16 July 2013].

Mtonga, E.M., 2012. *Co-operatives and market access in Zambia*, discussion paper, Lusaka, Zambia

Mujeyi, K., 2010. *Emerging agricultural markets and marketing channels within newly resettled areas of Zimbabwe*, Livelihoods after Land Reform in Zimbabwe. Working Paper 1. [Online] Available at <http://www.lalr.org.za/zimbabwe/zimbabwe-working-papers-1/LALRWP_01_Mujeyi_final.pdf/view>. [Accessed on 16 July 2013].

Murray, J., 2011, *Egg organisation committee*. Chairperson report. Sapa congress. Gauteng [Online] Available at <<http://www.sapoultry.co.za/pdf%20avi/tuesday/EO%20REPORT.pdf>> [Accessed on 8 July 2013].

Orr, A., Mwale, B. and Saiti, D., 1999 *Markets and Livelihoods*, Lessons from Farming Systems Research (FSR) in the Blantyre Shire Highlands. Paper Presented at the Workshop on Integrated Crop Management Research in Malawi: Developing Technologies with Farmers. Club Makokola, Mangochi. pp 1-12.

Porter, M., 1990. *The competitive advantage of nations*. New York, free press [Online] available at: <http://ideas.repec.org/a/eee/deveco/v40y1993i2p399-404.html>. > [Accessed 22 June 2013].

Poulton, C., Kydd, J. and Doward A., 2006. *Overcoming market constraints on pro-poor agricultural growth in Sub-Saharan Africa*, Development policy review 2006 (30) 243-277 [Online] available at <<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-7679.2006.00324.x/pdf>> [Accessed 22 June 2013].

Rukuni, M. and Eicher, C. K., 1994. *Zimbabwe's agricultural revolution*. University of Zimbabwe Publications. Harare. Zimbabwe.

Singh, S., 2008. *Leveraging Contract Farming for Improving Supply Chain Efficiency in India*, Some Innovative and Successful Models. Acta Horticulture (794): 317-323.

Singh, S., 2002. *Contracting Out Solutions*, Political Economy of Contract Farming in the Indian Punjab. World Development Vol. 30, No. 9:1621–1638

Syngenta, 2013. *Improving the livelihood of smallholder farmers*. [online] Available at: <<http://www.syngentafoundation.org/index.cfm?pageID=297>> [Accessed 16 July 2013].

Torero, M., 2011, *A framework for linking smallholder farmers to markets*. Paper presented at the IFAD Conference on New Directions for Smallholder Agriculture 24-25 January, 2011, Rome Italy

United States Agency for International Development, 2008. *Microenterprise Development (GMED) Project*. Final report. Washington, DC: USAID

United States Department of Agriculture, 2004. *Production estimates and crop assessment Division Foreign Agricultural Service*, [online] Available at: <http://www.fas.usda.gov/pecad2/highlights/2004/06/zimbabwe/images/aez_zimbabwe.htm> [Accessed 26 July 2013].

Van der Vorst, J., 2001. *Performance measurement in agrifood supply chain networks*. Wageningen University, Hollandseweg, Wageningen, The Netherlands

Worldbank, 2002. *Building institutions for markets*. the world bank and oxford university press, Washington USA [Online] available at <http://wdronline.worldbank.org/includes/displaybookimage.php?image=WDR_2002&bookid=22> [Accessed 23 June 2013].

Wyrod, R., 2008. *Between Women's Rights and Men's Authority*, Masculinity and shifting discourses of gender difference in Urban Uganda', *Gender and Society*, 22(6), 799-823

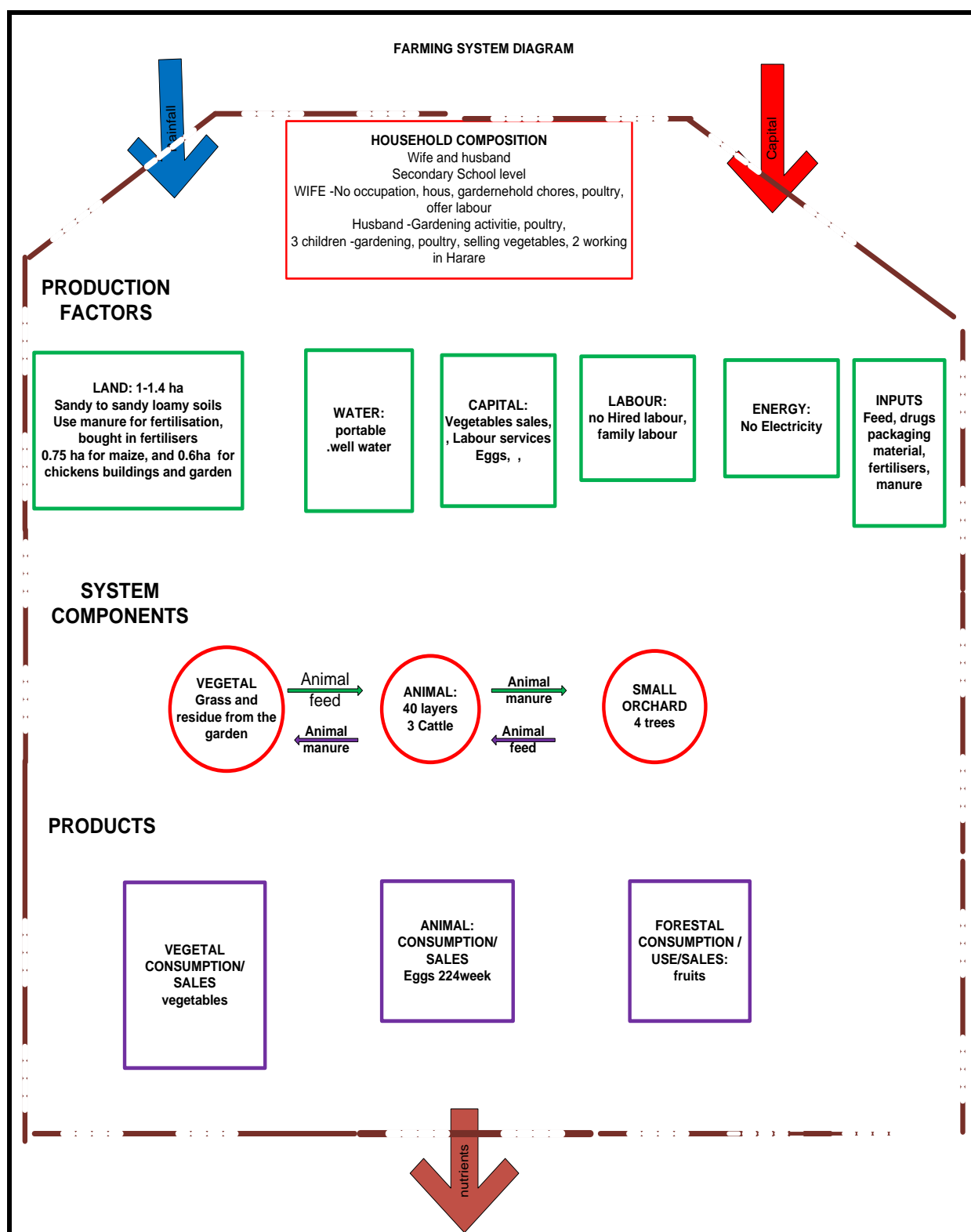
Zimbabwe National statistics agency, 2013. *Poverty income and expenditure survey*. [online] Available at <<http://www.zimstat.co.zw/dmdocuments/Finance/Poverty2011.pdf>> [Accessed 6 June 2013].

Zimbabwe Vulnerability Assessment Committee, 2009. *ZimVAC urban food security assessment, January 2009*. National Report. Harare: ZimVac. [Online] Accessed at <<http://www.ochaonline.un.org/OchaLinkClick.aspx?link=ocha&docId>> [Accessed on 19 August 2013].

Zimbabwe Poultry Association, 2011. *The Poultry Site*, Producers target 70 million day old chicks.. [Online] Available at: <<http://thepoultrysite.com/poultrynews/vars/country/zw>> [accessed on 3 June 2013].

ANNEXES

ANNEX 1: FARMING SYSTEM FOR SMALLHOLDER EGG PRODUCER



CHECKLISTS

Annex 2: FDG Checklist interview questions for focus group discussions

Stage 1 Stakeholder analysis, mapping and chain relations

- list the key stakeholders and their roles and possible risks
- Draw the value chain map, calculate value shares
- draw the Venn diagramm to indicate chain relations

Stage 2 Business model canvas checklist

KEY ACTIVITIES

1. What egg production activities do you perform?
2. What marketing and sales activities do you have?
3. What research and development activities do you perform?

KEY RESOURCES

4. Do you have a brand name?
5. How many permanent employees do you have (Males and females)?
6. How many part time employees do you have (Males and females)?
7. How do you finance your business?
8. What is the size of your land?
9. What other physical infrastructures do you have apart from land?

KEY PARTNERS

10. Who are your important key partners?
11. Who are your input suppliers?
12. What support do you get from your key partners?
13. What activities do your partners perform?

CHANNELS

14. Where do you sell your eggs?
15. How do you communicate your customers?
16. How do you reach your customers?
17. How do you cope with your customer routines?

CUSTOMER RELATIONSHIPS

18. Do you have contract with your customers?
19. Do have open days for customers to visit your farm?
20. Do you have any training or workshops for your customers?

VALUE PROPOSITION

21. How do you handle customer complaints?
22. Which customer needs are you satisfying?
23. How do customers access your product?

CUSTOMER SEGMENTS

24. How many products are you producing?
25. What group of customers are you targeting?
26. Which customer group is most important?

COST STRUCTURE

27. What are the average production costs incurred in egg production?

28. What are the sales and marketing costs?
29. Which resources are most expensive for the enterprise?

REVENUE STREAMS

30. What is the price per crate and each per off layer bird?
31. What other products apart from egg are the farmers selling and at which price?
32. What is the method of payment?

MARKET INFORMATION

33. Which key market information do you get from partners
34. How do you get the market information?

SUSTAINABILITY – GENDER

35. Who is mainly responsible for the project- ownership
36. How are the roles mainly divided
37. Who is mainly responsible for the production and marketing activities
38. Do men and women have equal access to capital and resources like livestock inputs

MARKETING CHALLENGES

39. What are the major challenges in marketing eggs to high market segments such as institutions and retail chain supermarkets?

FINANCE

40. Where do you go when you need money for your business?
41. Do you get credit from input suppliers or buyers? What are the terms?
42. Do you get production financing from your buyers? What are the terms?
43. Do you have need for additional financing at the moment? If so, what would it be used for?
44. What sources (formal or informal) have you approached for loans, and what have been the key

ORGANIZATION IN THE MARKET OR SUPPLY BASE

45. Do you sometimes collaborate with other firms to produce and deliver customer orders?
46. Which aspects of your business do you intend to change in the next 2 years (machinery, Equipment, new products, marketing strategy, quality control, management system,

Annex 3: Checklist of interview questions with institutions and retail supermarkets

1. Where do you source the eggs?
2. What volumes you procure per week for your Branch?
3. What is the buying price and selling price at your branch
4. What qualities of eggs are preferred by consumers and what do you look for before buying from a supplier, brand, size etc.
6. What business arrangements do you prefer for egg suppliers?
5. What are the opportunities for smallholder farmers in supplying eggs to these chain retail supermarket

Annex 4; Checklist for interviews with institutions

1. Where do you source the eggs?
2. What volumes you procure per week for your organisation?
3. What is the buying price and selling price at your branch?
4. What qualities of eggs are preferred by consumers and what do you look for before buying from a supplier, brand, size etc.
6. What are the opportunities for smallholder farmers in supplying eggs to these chain retail supermarkets

Annex 5: Checklist of interview with Egg collection centre

1. What are the quantities sold per week at the egg centre, channels?
2. What are the payment arrangements with farmers?
3. Major challenges being faced at the egg collection centre?
4. What is the marketing mix at the centre 4Ps used?

Annex 6. Checklist of interview with ZPA chairman

1. What are the services offered to members?
2. What are the challenges faced in marketing eggs by smallholder farmers?
3. How do members get marketing information?
4. What are the opportunities for smallholder farmers to access high price segments like retail chain supermarkets?

Annex 7: Checklist for interviews with large scale farmer

1. What are the quantities sold per week?
2. What are the challenges for linkages with smallholder farmers?
3. What are the opportunities for linkages?

TRANSCRIPTS

Annex 8: Three Focus group discussions with smallholder egg producers

Stakeholders in the chain

Lpd, Agritex,- crop and livestock extension, vet-animal health, ZPA, member association, Fivet, national foods-feed, capital foods, Agribank-finance, local leaders-dispute settlement, Irvines, Luna and crest breeders, point of lay and day old chicks, traders, local shops, schools, supermarkets some have own wholesales-OK, Farm and city, Travelling traders-boiled eggs, transporters-feed, DR and SS research institute, SAZ- Standard association of Zimbabwe.

Key Resources

- Land 1 to 1.4ha per household excluding communal grazing, Feed concentrates and kitchen and garden waste such as vegetables- for yolk colour, poultry houses, well, financial resources, layers 40 per household, cattle for crop production, farming equipment, poultry equipment, grannies for storing maize and concentrates, fertiliser, maize is very important but scarce, barter trade with maize, crates, No brand no hired labour, self-financing, point of lay \$9-\$10/ bird, day old chicks \$80/100 chicks

Customer relationship

- No contracts with buyers, the traders, local shops, community,
- Most people in the community prefer to buy on crates but don't pay on time
- Egg day 15 September, customers are free to come and see our project anytime, without arrangements
- No training or workshops with customers. No frequent communication with buyers.

Key partners

- LGDA, Vet, LPD, Agritex, FAO,
- National foods, capital foods, Pro feeds \$ 43,00 per 50kg expensive, preferred national foods, reliable,
- Agrifoods and Fivet, local leaders in solving disputes and accessing inputs from NGOs
- Extension, technical support, regulatory, animal health services, no market information

Value proposition

- At first eggs were small \$1 for seven eggs, customers used to complain
- Complaints are handled by giving an extra egg on top (*mbasera*)
- Aim is to sell standard brown eggs (big)
- Customers want big eggs so satisfying their need for size and less broken eggs
- Access products – farm gate, egg centre, local shops

Marketing Channels

- Local 5%, egg collection centre 15%, traders 50%, local community shops 25%, institutions, 5% -selling to teachers, sometimes church gatherings, cellphones and posters, sending word through relatives. No formal communication.
- Feed challenges may result in low laying rates and unavailability of eggs which is a challenge to meet demand

Key activities in egg production

- Feeding, marketing, purchasing feed, record keeping, cleaning, health management, picking and visual grading, debeaking with some farmers, trials using muccina for coughs. No quality control system in place i.e. QMS
- Marketing activities – taking eggs to the centre, making phone calls and billboard writing.

Customer segments

- High income, low income, institutions- targeting high income pay cash, institutions, chain supermarkets- volumes are high

Cost structure and revenue streams

- Feed costs 80% of production, \$ 37,50/ 50kg layers concentrate, transport \$2 per 50kg bag, marketing \$1 end of week, labour-nil, egg trays-\$1 for 50 crates, no lighting, water-from the well, poultry houses app \$ 240,
- \$1 for 7 eggs local, \$ 4,00 egg centre, transport \$2,00 to and from the egg centre, vegetables \$0,25 per bundle.

Market information

-farmers aware of market information, traders provide buying prices information, trustworthy sources, government agencies LPD provide production information. No access to reliable market information. Information from traders, relatives, bars, ward meetings but not reliable.

Gender

- -as flock size increases, men get more involved especially marketing, and decision making, no clear ownership, access to livestock inputs like DOCs, POLs from LGDA and FAO, Feed productive assets is equal.
- - Production –women and children, marketing men when they are more crates, men at time maintenance of poultry houses.

Finance

-Self finance, no access to loans, high interest rates 20-25%, high withdrawal charges

Organisation in the supply

- Individual selling no collaboration,
- Venturing into broiler production, marketing is easier

What are the marketing challenges?

- High transport costs when transporting feed from Gurube, national foods or capital foods, on average \$ 2.00/per 50kg bag of concentrate. High costs taking 2-3 crates to the egg centre. Poor roads especially in the rain season transporters don't want to come, few transporters
- Egg breakages when taking eggs with bicycle. Price Fluctuations of egg price on the market as we were once paid \$4,50 in 2012.
- Shortage of trays, doc, interest rate is high 20-25%, so recycling some old trays, traders bring their own trays, delay in egg payments even after a month
- Low cost paid per crate \$4.00 it's not enough to cover costs and go back into business, some farmers are going out of production. \$35, 75 to 37,50 depending on outlet
- Limited access to market information and diseases, new castle, fowl pox – low production
- Off layers are also difficult to dispose at \$4,00, imports from South Africa at times
- Poor of storage facilities, resulting in rotting of eggs, limited extension service 1 LEW covering 2 wards, ward 22 man do the marketing because of distance
- No marketing stalls- expensive vending license, harassment with municipal police

Annex 9: Interview with Branch Manager OK supermarket Mr Obey Nhakura

1. The quantities of eggs you buy per week for your Branch

- 800 loose crates per week from indigenous suppliers mainly A2, and a few commercial farmers and from major suppliers like Irvines and Suncrest. They deliver the eggs to our branch according to the order of the eggs.

2. What qualities of eggs are preferred by consumers and what do you look for before buying from a supplier, brand, size etc.

-The issue of brand is also of importance since to some of our consumers but generally the presentation of the eggs has to be attractive to consumers, their size, cleanliness, and customers do not want breakages. At times, there are imports from SA but are at times regulated by the government as import permits are withdrawn. Some customers do like brown eggs and so colour matters at times. The policy on imports is always changing because the local producers are complaining and would want protection from the government that's why they have introduced surcharges on egg imports. Some say imports are not tasty as compared to locally produced eggs

3. What business arrangements do you prefer for egg suppliers?

- Prefer established suppliers who can deliver on their own and we also prefer shrink-wrapped crates as opposed to the loose crates which results in egg loses if there is poor handling and so the risk with wrapped eggs is shared as customers do not open the packaged trays.

4. What challenges do you encounter from procuring from local egg farmers?

-They cannot meet demand, they cannot deliver, they cannot not shrink-wrap the crates and as a result, there are a lot of breakages, the issue of product uniformity i.e. quality is still a challenge for them may be because of inadequate grading.

5 What are the opportunities for smallholder farmers in supplying eggs to these chain retail supermarkets?

-They need to invest in grading packaging to shrink-wrap their crates as well as invest in distribution motor vehicles for to cater for delivery time and also on storage equipment. Contracts are also another option for them to supply these retail chain supermarkets

Annex 10: Interview with Zimbabwe Poultry Association Chairman Mr. Solomon Zawe

1. What are the services offered by ZPA

- The chairman reiterated that 65 percent of its members are smallholder farmers although the membership base includes members from all sectors.
- Lobbying for policies which help to expand the poultry industry like the current surcharges on poultry products imports was through ZPA to protect the local farmers.
- Training members on business management skills so that they become competitive.
- Provision of market information and updating them so they are abreast with development in the industry.

-

2 Challenges faced in marketing of eggs by the smallholders

- Farmers lack information on volume, quality and prices, fluctuating prices.
- High transaction costs especially the location of their farms increases the costs of transport and so the cost price.
- High costs of feed, grain prices raw materials and other non-feed costs like EMA costs is increasing the cost price of eggs and this is affecting the marketable quantities i.e. competitiveness.
- Market regulations like the standards as most retail supermarkets these days are becoming interested in standards so farmers should have quality control systems in place. Limited imports coming illegally into the country can be seen at the open market in MBARE

3. How do members get market information

- Information gets to the big grower who is in direct contact with smallholder member farmers will then diffuse the information.

-

2. What are the opportunities for smallholders to access the high market segments

- Farmers need to be organised to cut on costs so as to lower the cost price per crate which is current \$2.67
- Improve market relations and the smallholders can sell through a producer organisation or through an established large egg producer whom they have good relations to lower transaction costs like monitoring and provision of information.
- Use of emerging breeds, smaller birds which reduce breeder feed costs as well as housing costs through increasing stocking rates. Using Norvagen layer genetics which has on farm potential of 396 birds per year yet average yield in Zimbabwe is 300eggs per year.

Day old chicks -\$ 1.66 Point of lay \$ 11.00

Annex 11; Interview with Guruve egg collection Mrs Tafadzwa chirava

The Guruve egg collection centre was initiated by LGDA for farmers to improve marketing of eggs and the employee was interviewed on a number of issues which include

Quantities sold per week

- Only 60 farmers are bringing their eggs to the egg collection centre
- No target customer segment, They are selling 200 crates weeks to small local shops at \$ 4.00 per crate the price agreed by the supplying farmers and at peak 300 crates were sold. No grading is done at the egg collection centre, all are sold as standard eggs.
- Most supplying farmers want \$ 5,00 but it's difficult to get the buyers at this price.

What is the payment method to the farmers?

- Payment is done after seven days one person comes and sign on behalf of the farmers. Banking was done in the past but high withdrawal charges farmers started complaining.
- Some farmers are selling to Harare at \$5 and others even \$6

What are the major challenges faced at the egg collection centre

- Farmers are saying feed and transport is expensive
- Storage is affecting the quality of eggs especially the freshness as 30% of the eggs are usually returned. The centre has got one pallet only which is not enough and farmers are using old and dirty crates. Handling of eggs by farmers is generally poor as eggs are broken before reaching the centre.
- Some customers need 12 eggs and the crates are not available.
- The storekeeper does not have an marketing experience

Annex 12: National foods depot assistant- Martin mukonowatsauka

What are your major challenges in feed manufacturing

- Prices of cereals have gone high and we are likely to see a period of grain shortage in zimbabwe and the region, power supply, import tariffs, fluctuating prices, policy on GMOs not stable, high transport costs, no-railway transport during importation
- Soya beans is generally expensive \$ 850- \$1000 per tonne so rely on imports.
- High conversion costs as we depends on imports for our raw materials

Prices of poultry feeds National foods



POULTRY FEEDS - LAYERS		
Chick Mash - 21 % CP	617	30.85
Growers Mash - 15.5 % CP	528	26.40
Pre-Lay Growers Mash - 17.5 % CP	549	27.45
Layers Mash I - 16 % CP	560	28.00
Layers Mash II - 15.5 % CP	555	27.75
High Energy Layers Mash - 17 % CP	598	29.90
Growers Concentrate - 27 % CP	666	33.30
Layers Concentrate - 29 % CP	715	35.75
High Energy Layers Concentrate - 30 % CP	802	40.10

What is your monthly sales distribution of feeds

1 Monthly averages- Beef 2500, dairy 500, pig, 700. Poultry 9000, sundry 400

Mass market major market for layer feed as compared to the others.

- Poultry feed demand remains on the increase as compared to all the other feeds in the feeds section
- Customers with over 30 tonnes orders and within the range of 50km are provided with transport after 50km they will be charged \$3.00 per kilometre.

Annex 13: Interview Guruve Hotel (Rosemary Chitohwa)

- sale as boiled or fried and served as breakfast
- 24 crates per week –four per day and five crates during weekends
- buy at ZLT at \$6,00 but also willing to buy from farmers
- Aware that the farmers have eggs but no specific name
- crate sold at \$15 after value adding
- breakfast sold at \$2,50, four slices, two eggs, two cups of tea, and baked beans
- willing to buy from farmers on contract but the quantities are small 24 crates only that's why they prefer to buy from ZLT directly.
- Packaging, quality is very important when purchasing eggs.
- some consumers complain on small eggs so size is very important especially when selling boiled eggs.
- high bookings during the weekend
- 45 rooms available- serve as salad

KEY PARTNERS		KEY ACTIVITIES		VALUE PROPOSITION	CUSTOMER RELATIONSH	CUSTOMER S	
a) Suppliers *Breeders-IRVINES * Feed companies - national foods and capital foods * Agro-dealers- Vet distributors b) Key partners *DLPD *EMA *Vet services *LMAC, Research institute c) Key Activities of partners *Support activities- extension, research information, market information *Animal health services- vaccinations *Inspections and permits d) Key resources partners and suppliers Finance, research information Feed, point of lays, livestock and crop inputs		*Procuring of pullets * Feeding of birds * Health management * Hand picking of eggs * Grading and wrapping * Maintenance of poultry houses * Record keeping * Marketing and transportation		* Standard eggs *No labels to satisfy customer quality * No Branding and certification of egg * No Product differentiation for each customer segment.	* Contracts with some schools,supermarkets * farm visits allowed	* Low income * High income- * Institutions * The most important segment is the high Income segment	
		KEY RESOURCES					
		a) Physical Land (130 ha) 50 arable, 10 buildings, 70 non arable land *Buildings, grading shades, grinding mill,farm machinery *Poultry houses, poultry 6000 layers *Cattle (60), Pigs 70 sow unit *Farming equipment *Waterers b)Human resources. Labour, 7 Permanent,(2 males, 3 females) c) Financial resources d) Animals (day old chicks Hyline)					
		CHANNELS					PLACE
				UNIQUE PROPOSITION	HOW		
COST STRUCTURE					REVENUE STREAMS		PRICE
* The important costs inherent in the business is the variable costs i.e. \$ 35.00/ 50kg bag feed * Expensive key resources – fertiliser \$ 40.00/ 50kg bag for growing feed, maize soya. * Expensive key activities – harvesting maize for feed- labour \$1 per 100m line *Cost price \$ 2.37 per crate					* Customers are willing to pay for size * pork is sold at \$5.00 / kg cattle \$ 700/ beast * The average price for one egg is\$ 0,15 per crate, \$ 4.50/ crate * Sales 214 crates per day		

Annex 15: Photo gallery

