

# **Determinants of Smallholder Farmer Market Participation in the Broiler Industry of Gauteng Province in South Africa**

by

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## DECLARATION

I declare that the thesis, which I hereby submit for the degree MInst Agrar (Agricultural Economics) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## DEDICATION

To my loving husband, Dingaani, my children Alison, Denzel, Cherise and Dana and my mother who has always encouraged me to further my studies.

## ACKNOWLEDGEMENTS

My sincere thanks to my

- supervisor, Professor Machethe, for his invaluable dedication and patience in the supervision of my thesis; and
- husband, Dingaani, who has been a source of inspiration to me and has supported me throughout my studies.

I acknowledge the guiding hand of God, without which this thesis would not be.

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**Degree:** MInst Agrar (Agricultural Economics)  
**Department:** Agricultural Economics, Extension & Rural Development  
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## **ABSTRACT**

The broiler industry is considered an essential sub-sector of the agricultural industry for the stimulation of economic growth in South Africa. This subsector consists of a vibrant large-scale component, and together with other participants, dominates the peripheral markets. However, smallholder broiler producers find it difficult to participate in formal markets. This is due to numerous constraints and barriers which impede entry of these resource-poor farmers. In addition, there is a general reluctance of buyers in formal markets to engage with the numerous smallholder farmers.

The overall purposes of this study were to investigate the extent of smallholder farmer market access and establish reasons for the limited formal market access of smallholder farmers in the broiler industry in Gauteng Province. The study examined the broiler sub-sector in the province by using a holistic approach. It was, therefore, not restricted to smallholder farmers but also included other participants, such as retail supermarkets, various poultry associations, and government, all of which play a crucial role in broiler production and marketing.

The specific objectives of this study were to:

1. Determine the size of the smallholder broiler sub-sector in Gauteng, with reference to the number of farmers involved and the quantities of broilers supplied;
2. Assess the economic viability of the smallholder broiler enterprise;
3. Determine the level of market participation of smallholder broiler farmers, with particular reference to the quantity of broilers sold in formal markets;

4. Identify farmer-related determinants of market participation - this included farming experience, level of education, economic status, and the gender of participants; and
5. Identify external determinants of smallholder broiler market participation, such as barriers to entry, actual market requirements, transaction costs and infrastructure required to start a broiler enterprise approved for formal markets.

The results of the study indicated that smallholder broiler farmers in Gauteng dominated informal markets. These farmers lacked the land and financial capital essential for starting the extensive operations required to subcontract to the vertically integrated operators. Furthermore, access to information on business management and expansion, and broiler project management were restricted. The stringent sanitary requirements for broiler supply by supermarkets further prevented participation by smallholder farmers in these retail outlets. As such, smallholder farmers were inclined to congregate together and competed only in informal markets.

It was recommended that the South African government should consider participating in a public private partnership (PPP) with established businesses in the broiler sub-sector to support the development of smallholder farmers. This could take the form of “soft loans” to enable the smallholder broiler farmers to have the capital and infrastructural requirements to be contract producers to the established broiler operators. To ensure success of this business enterprise, it is essential that there is thorough screening of prospective candidates. Additionally, support should ensure that smallholder farmers have increased access to training in business management, broiler management and business expansion.

In addition to promoting formal market participation by smallholder broiler producers, government should also support the informal broiler market to ensure both its expansion and improved standards of service for the customers. This is a growing market with a loyal customer base for both live birds and fresh broiler meat. With more awareness and marketing, the turnover of this market could increase substantially in the future.

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## ACRONYMS

|        |  |
|--------|--|
| BSE    | Bovine Spongiform Encephalopathy                         |
| CASP   | Comprehensive Agricultural Support Programme             |
| CRDS   | Comprehensive Rural Development Strategy                 |
| DAFF   | Department of Agriculture, Fisheries and Forestry        |
| DARD   | Department of Agriculture and Rural Development          |
| DOC    | Day Old Chicks   |
| FSP    | Farmer Support Programme                                 |
| GDP    | Gross Domestic Product                                   |
| HACCP  | Hazard Analysis and Critical Control Points              |
| LRAD   | Land Redistribution for Agricultural Development         |
| MAFISA | Micro Agricultural Financial Institution of South Africa |
| NAMC   | National Agricultural Marketing Council                  |
| NEPAD  | New Economic Partnership for Economic Development        |
| NGO    | Non-governmental Organisation                            |
| PPP    | Public Private Partnership                               |
| PRP    | Prerequisite Programmes                                  |
| QA     | Quality Assurance  |
| SAPA   | South African Poultry Association                        |
| SSA    | Statistics South Africa                                  |
| SPS    | Sanitary and Phytosanitary                               |
| WRS    | Warehouse Receipt Systems                                |

# CHAPTER ONE

## INTRODUCTION

The participation of smallholder farmers in markets in South Africa contributes to the survival and growth of small business enterprises. For one such enterprise, the broiler industry in the province of Gauteng, broiler smallholder farmers are not major participants of large formal markets - instead, they have been relegated to supplying small volumes of birds to informal wholesale markets. Broiler production, in particular broiler meat, is a lucrative business in South Africa. Broiler production dominates the agricultural sector and it is the main source of protein when compared with all remaining animal protein sources. In 2010, the per capita consumption of poultry meat in South Africa was 32,96 kg per person per annum. In comparison with broiler meat, the per capita consumption for beef was 17,77 kg, pork, 4,58 kg and mutton and goat were 3,16 kg per person per annum. These represented a combined per capita consumption of 25,39 kg per person per annum, which was 7,57 kg less than the per capita broiler meat consumption (South African Poultry Association [SAPA], 2010).

In South Africa, there exists a dual agricultural sector, dominated on the one hand by modern capital intensive organised agriculture, and on the other, by a traditional subsistence small-scale communal sector. Since the 1980s, market liberalisation has prompted rapid industrialisation of the agricultural sector. This created both new opportunities and challenges for smallholder farmers in South Africa. Agro-industrialisation has stimulated an improved agricultural industry, with farmers and agribusiness being able to position themselves as players in a globally competitive environment. However, this has increased the gap between the small-scale communal and extensive capital intensive agricultural sectors. According to Bienabe and Sautire (2005), the exclusion of small farmers from dynamic markets emanates from both current economic and historical perspectives. As a result, these farmers are economically neither efficient in the production environment for successful integration into the mainstream agribusiness, nor are they empowered to commercialise their production. However, broiler production by smallholder farmers represents an attractive business enterprise to these entrepreneurs, as it has a rapid turnover period.

This study will attempt to elucidate the composition of the broiler industry in Gauteng. In addition, it is an attempt to quantify the current contribution made by smallholder farmers to

the industry. Hence, the outcomes of this study could represent a means of enhancing smallholder farmer participation in broiler production. With the current economic and socio-political changes in South Africa, such as the rapid expansion of retail supermarkets into the rural areas, there is a critical need for the development of new strategies for the integration of small-scale farmers into modern markets.

### **1.1. Problem statement**

Smallholder farmer participation in the broiler industry is negligible in South Africa. Broiler meat production is dominated by a few commercial producers (Table 1.1). Commercial broiler producers and contract farmers produce 75% of the broiler meat. The remaining twenty five percent is produced by non-commercial producers, including smallholder farmers. Specifically, small enterprises, which include smallholder farmers, contributed approximately only three percent of the volume of commercial chicken meat consumed in 2012. This equated with an estimated production of 57 763 tonnes (SAPA, 2012). Overall, this industry is dominated by large, vertically integrated commercial broiler producers such as Rainbow Chicken Limited (RCL Foods) and Astral which have integrated across the entire supply chain and supply large volumes. Together, these two companies produce 46 percent of total broiler meat in South Africa. Rainbow produces approximately 235 million broilers per annum and Astral Foods about 220 million broilers per annum. The third largest producer, Country Bird, produces 68 million broilers per annum, or seven percent of total broiler production. Country Bird is followed by four medium-sized producers (producing more than 50 million broilers per annum) that collectively supply 22% of the market (SAPA, 2012).

The top seven companies provide about 75% of total broiler meat in South Africa, while hundreds of smaller producers supply the balance. The major broiler producers manage integrated broiler meat supply chains that include the production of day-old chicks, broiler farms, feed milling, meat processing, and distribution to customers.

In the South African broiler industry, contract farming and vertical integration are the most common forms of arrangement. Furthermore, the owners of poultry processing facilities, who are themselves often large producers, sometimes contract out to large and/or small-scale producers to increase production. These trends monopolise the market. However, as the major producers are starting to focus more on the front-end of the supply chain (e.g., value-adding and distribution), broiler production under contract by smaller producers is on the increase.

**Table 3.1. Market share of commercial broiler producers in South Africa**

| <b>Producer</b> | <b>Market share (%)</b> |
|-----------------|-------------------------|
| RCL Foods       | 25                      |
| Astral          | 21                      |
| Country Bird    | 7                       |
| Tydstroom       | 6                       |
| Daybreak        | 6                       |
| Chubby Chick    | 5                       |
| Rocklands       | 5                       |
| Argy            | 2                       |
| Others          | 23                      |
| <b>Total</b>    | <b>100</b>              |

Source: GAIN report (2013)

Most agricultural studies on market linkages have focussed on crops and little has been reported for animal husbandry in South Africa. As a result, information on the participation of smallholder farmers in the market for animal products is scarce, particularly with reference to the broiler sub-sector. Limited studies have been conducted on the participation of smallholder farmers in some markets (Barrett, 2007; Machethe *et al.*, 1997). However, no studies have been conducted on smallholder broiler market participation in Gauteng. As broiler production and consumption in Gauteng is economically important, a study which focuses on these in Gauteng would be of considerable value for the industry and the small-scale farmers. In addition, information from such research in Gauteng would be of significance to provincial government as it has indicated an intention to promote market participation of smallholder broiler farmers. Also of relevance are two unique characteristics of the broiler sub-sector, namely, the shelf-life of the product and associated stringent sanitary restrictions. These add an interesting dimension to any research performed in this sector.

## **1.2. Objectives**

The general objective of this study was to identify factors that influence participation of smallholder farmers in the broiler industry in Gauteng.

Specific objectives of the study were to:

- i) Determine the size and composition of the smallholder broiler sub-sector, with respect to numbers of participating farmers as well as the quantities of broilers produced by them;
- ii) Assess the economic viability of the smallholder broiler enterprise;

- iii) Determine the level of market participation by smallholder broiler farmers, with reference to quantities of broilers sold in formal markets;
- iv) Identify farmer-related determinants of market participation - this included farming experience, education level, economic status, and gender; and
- v) Identify external determinants of smallholder broiler market participation, including the identification of barriers which impede entry to the markets, and requirements by the markets for successful participants.

### 1.3. Definition of key terms

For the purposes of this study, the terms “**smallholder**” and “**small-scale farmer**” are used interchangeably to refer to a farmer rearing between 500 broilers (gross income R50 000 per month) and 2 000 broilers (gross income R200 000 per month) at any given time. Farmers in this category were viewed to be commercially viable as their businesses were sustainable. “**Market participation**” refers to the exchange of broilers/broiler meat for money. For the purposes of this study, effective participation in markets refers to a situation where a farmer sells at least 500 birds a week (R50 000 per month) in the broiler formal market which dominates the broiler industry.

### 1.4. Organisation of the dissertation

The remainder of this dissertation is organised as follows:

- i) Chapter 2 provides the background to agricultural production in Gauteng and to the broiler industry in South Africa, highlighting levels of production, export trends and marketing channels;
- ii) Chapter 3 is a review of related research;
- iii) Chapter 4 discusses data sources used in the study and sample characteristics;
- iv) Chapter 5 concerns the results of the study and discussion thereof; and
- v) Chapter 6 presents the conclusion and recommendations.

## CHAPTER TWO

### BACKGROUND TO AGRICULTURAL PRODUCTION AND THE BROILER INDUSTRY IN GAUTENG

This chapter provides information on agricultural production and the broiler industry in Gauteng. The economic significance of the agricultural sector and the broiler industry in particular are highlighted.

#### 2.1. The economic importance of agriculture in Gauteng and South Africa

Although Gauteng occupies only 1.4% of the land area in South Africa, the province contributes 33% to the national economy of the country. Gauteng also yields 10% of the Gross Domestic Product (GDP) of the entire African continent (Department of Agriculture, Forestry and Fisheries [DAFF], 2010). The provincial government of Gauteng realises and acknowledges the potential of the agricultural sector to contribute to both the economic growth and attainment of development objectives of the province. Agriculture has the potential to become one of the key drivers in terms of grassroots empowerment and the reduction of poverty. The provincial government further realizes that if this potential is to be fulfilled, agricultural marketing should be fundamental to the production decisions of any relevant enterprise. The Provincial Department of Agriculture and Rural Development in Gauteng could provide additional support for sustainable agricultural development programmes to ensure small enterprise growth and development within the province (DAFF, 2010).



**Table 4.1. The contribution of the agricultural sector, compared with other major sectors of the South African economy in 2011**

| Industry  | Value Added (R billion-2011) | %      |
|---|------------------------------|--------|
| Agriculture, forestry and fishing                   | 64,00                        | 2,16   |
| Mining and quarrying                                | 260,40                       | 8,78   |
| Manufacturing                                       | 357,80                       | 12,07  |
| Electricity, gas and water                          | 78,50                        | 2,65   |
| Construction  | 120,40                       | 4,06   |
| Wholesale, and retail trade, hotels and restaurants | 386,40                       | 13,03  |
| Transport, storage and communication                | 220,10                       | 7,42   |
| Finance, real estate and business services          | 565,20                       | 19,07  |
| General government services                         | 434,20                       | 14,65  |
| Personal services                                   | 183,50                       | 6,19   |
| Taxes less subsidies on products                    | 293,80                       | 9,91   |
| GDP at market prices                                | 2 964,30                     | 100,00 |

Source: Statistics South Africa (2011)

Despite the agricultural sector only contributing 2,16% towards the South African GDP, primary agriculture is an important sector of the South African and Gauteng economy. The value of the contribution of the this sector to the economy lies in the backward linkages (purchases of goods such as fertiliser, chemicals and implements) and forward linkages (supply of raw material to the manufacturing sector) with other sectors. Agriculture plays an important role as a significant provider of employment, especially in the rural areas. Agriculture is a major earner of foreign exchange. Primary agriculture accounts for about 2,7% of the GDP of South Africa, of which 6% originates in Gauteng (AgriSETA, 2010). Furthermore, the backward and forward linkages of agriculture associated with the manufacturing sector significantly enhance the economic contribution of the sector to both South Africa and Gauteng (AgriSETA, 2010).

Gauteng has a well-established commercial sector with many processing factories which rely on a supply of raw materials such as livestock and horticultural products in order to function. The Gauteng Agricultural Development Strategy has therefore been proposed to develop the agricultural economy of the province such that it realises its full potential, maximizes the agricultural contribution towards job creation, reduces poverty and provides a framework for future financial investment (AgriSETA, 2010). In order to achieve this, the Gauteng Growth and Development Strategy identified key strategic focus areas which include:

- i) Support for farmer development;
- ii) Enhancement of the competitiveness of the sector;
- iii) Agricultural planning and market analysis; and
- iv) Focusing on the vulnerable groups within agriculture.

It is, therefore, in the context of the Gauteng Growth and Development Strategy proposals that the Gauteng Department of Agriculture and Rural Development aims to support market development to enhance small enterprise agribusiness competitiveness such that it contributes to the national goals and objectives for sustainable development.

## **2.2. Agriculture in Gauteng**

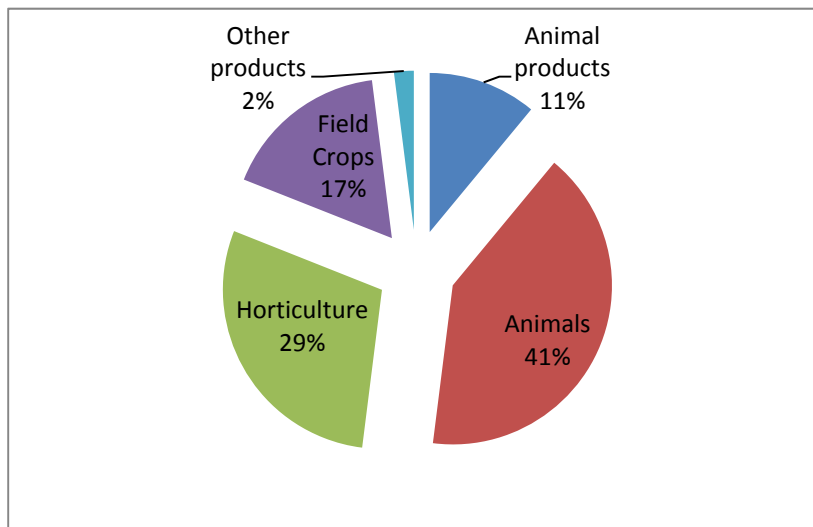
The total farming income from Gauteng in 2010 was R4 398 million. Most of this income was derived from animal sales (Statistics South Africa [SSA], 2010). The Maize Triangle Revitalisation programme of the Gauteng Department of Agriculture and Rural Development (DARD) forms a major part of the plans to assist rural people in Gauteng to provide their own food. This, in turn, is part of a broader strategy known as the Comprehensive Rural Development Strategy (CRDS). In 2011, this programme was rolled out in Devon, Hekpoort, Sokhulumi and Bantu-Bonke, Gauteng. As further enabling strategies, the CRDS also provides infrastructure such as roads and electricity to rural farming communities.

Only six percent of the farming output in South Africa is produced in Gauteng (SSA, 2010). This indicates the size of the agricultural output of this province in relation to other provinces. The agricultural sector of Gauteng is dominated by vegetable production which is supplied to the densely populated cities that dominate the region. There is commercial farming in the southern sector of the province (part of South Africa's maize triangle) and the farming of cotton, groundnuts and sorghum is undertaken in areas near Bronkhorstspuit and Heidelberg.

Heidelberg is also home to Africa's largest feedlot for cattle. This facility, Karan Beef, can accommodate 120 000 cattle (SSA, 2010). Other foods which are produced in large volumes in the province are fruit, dairy products, poultry and eggs. Western Gauteng has large-scale commercial farming in maize, grain, sunflower seeds and beef.

Food, food processing and beverages account for nearly R13 billion of the economy of Gauteng, with half of South Africa's agro-processing companies operating in the province (SSA, 2010). New niche products under development include organic foods, essential oils, packaging, floriculture, medicinal plants, natural remedies and health foods – and there are several exciting opportunities for investment in these industries.

Gross farming income from large-scale farming units situated in Gauteng was R131 541 million in 2011 and in 2010 was R122 550 million. These figures indicate a growth of 7,3% between 2010 and 2011. Approximately, 55% of the total gross farming income was generated from commercial farming in the animals and animal products divisions (Figure 2.1). Horticultural and field crop products were the second and third largest sources of income in the sector, with contributions of 29% and 17%, respectively (SSA, 2010).



**Figure 2.1: The contribution (%) of various sectors of the farming industry to the gross income of agriculture in Gauteng (SSA, 2010)**

By December 2010, the number of paid employees in large-scale formal agriculture in Gauteng was 34 936 (Table 2.2) of which 22 979 were full-time and 11 957 were casual employees. Large-scale commercial farmers paid R1,28 billion in salaries and wages. This amounted to 13,3% of the gross farming income generated by the large-scale agricultural sector in Gauteng (SSA, 2010).

**Table 2.2: Total employment within agriculture in Gauteng, South Africa (2010)**

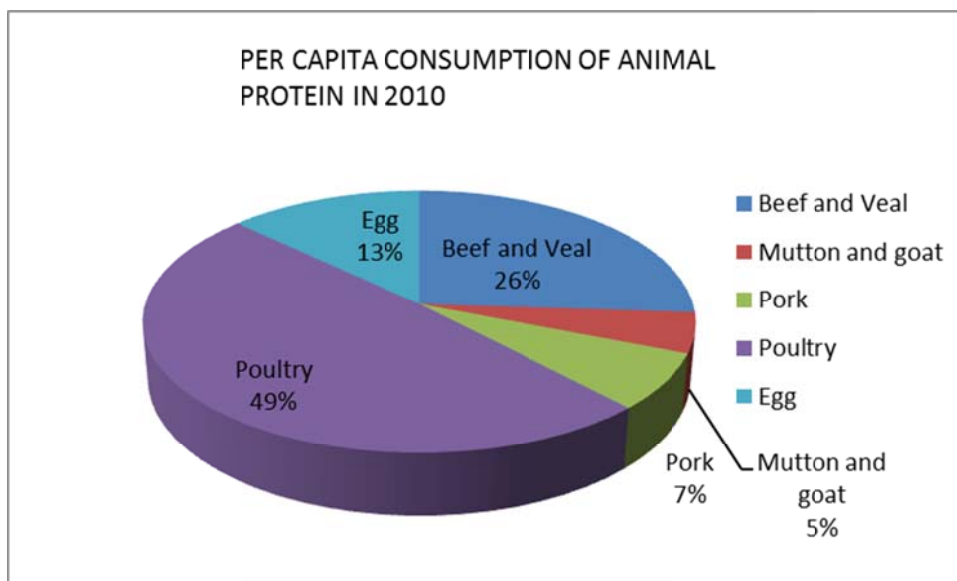
| Category                      | Number |
|-------------------------------|--------|
| Full-time employees           | 22 979 |
| Casual and seasonal employees | 11 957 |
| Total                         | 34 936 |

Source: Statistics South Africa (2010)

### 2.3. Broiler production in Gauteng and South Africa

Of the 203 international countries listed as producing 79,4 million tonnes of world broiler meat in 2008, the Republic of South Africa occupied 17th position, with a market share of 1,23%. The three countries which dominate world broiler production (48% of the market) are the United States of America (USA), 21%, China, 14% and Brazil, 13% (SAPA, 2010).

Broilers form a major part of the source of protein in the human diet (Figure 2.2). Comprising 23% of all agricultural production, the poultry industry is the largest segment within South African agriculture. The per capita consumption of poultry is 49% of the total per capita consumption of animal meat in South Africa. This is in excess of the consumption recorded for beef, veal, mutton and goat. The cattle and calf industry was the second largest contributor, representing 26% of animal protein consumption (DAFF, 2010). In 2010, the consumption of poultry and eggs together increased by four percent over that recorded for 2009. The combined beef, pork, lamb and goat meat production increased by 13% over the same period (DAFF, 2010).



**Figure 2.2: Per capita consumption (%) of animal protein by humans in South Africa, 2010**  
(Department of Agriculture, Fisheries and Forestry, 2010)

Poultry imports into South Africa are largely driven by the exchange rate. This has impacted negatively on the expansion of the poultry industry over the last eight out of ten years. During 2010, annual imports of raw poultry and processed poultry contributed 16% of domestic consumption.

As the Rand continues to decline in value, exports offer a window of opportunity for the industry. However, exporting poultry from South Africa is challenging as the input costs of poultry production in competitor countries, such as Brazil, are substantially less than in South Africa. Furthermore, export of South African poultry to the lucrative markets of the European Union and USA is limited by statutory sanitary requirements for poultry exports to these international markets

## 2.4. Provincial distribution of broiler farmers

The distribution of broiler birds (breeder and rearing) in seven South African provinces is depicted in Table 2.3. Gauteng Province produces 5.3% of total broiler birds.

**Table 2.3: Broiler production levels in seven provinces in South Africa**

| Province                  | Total broiler birds | % share of total broilers |
|---------------------------|---------------------|---------------------------|
| Eastern Cape              | 6 849 857           | 6,50                      |
| Free State                | 5 657 563           | 5,30                      |
| Gauteng                   | 5 658 147           | 5,30                      |
| KwaZulu-Natal             | 16 308 753          | 15,40                     |
| Limpopo and Mpumalanga    | 23 880 194          | 22,60                     |
| North West                | 25 712 717          | 24,30                     |
| Western and Northern Cape | 21 793 000          | 20,60                     |
| <b>Total</b>              | <b>105 860 231</b>  | <b>100.00</b>             |

Source: South African Poultry Association (2010)

## 2.5. Production, consumption, export and import of broilers in South Africa

Figures listed in Table 2.4 indicate that South Africa does not produce enough broilers for domestic consumption. This shortfall is made up for by importation. It is also evident from the figures that South African broiler meat exports were far lower than figures recorded for imports. Hence, South Africa is a net importer of broiler meat. Finally, it is notable that the consumption of broiler meat increased steadily by 62.5% between 1998 and 2008 (Table 2.4).

**Table 2.4: Total production, consumption, exports and imports of broilers in South Africa (kg)**

| Year      | Production    | Consumption   | Export     | Import      |
|-----------|---------------|---------------|------------|-------------|
| 1998/1999 | 803 000 000   | 874 000 000   | 13 596 825 | 98 225 024  |
| 1999/2000 | 850 000 000   | 927 000 000   | 6 228 237  | 93 390 819  |
| 2000/2001 | 869 000 000   | 938 000 000   | 7 393 777  | 78 470 172  |
| 2001/2002 | 896 000 000   | 965 000 000   | 9 002 249  | 93 900 937  |
| 2002/2003 | 925 000 000   | 1 032 000 000 | 4 009 216  | 153 006 500 |
| 2003/2004 | 928 000 000   | 1 082 000 000 | 3 577 946  | 181 996 728 |
| 2004/2005 | 965 000 000   | 1 151 000 000 | 1 765 874  | 214 022 528 |
| 2005/2006 | 1 035 000 000 | 1 275 000 000 | 1 950 160  | 293 598 112 |
| 2006/2007 | 1 101 000 000 | 1 353 000 000 | 1 507 171  | 276 016 746 |
| 2007/2008 | 1 183 000 000 | 1 421 000 000 | 2 548 420  | 220 278 304 |

Source: Statistics South Africa (2010)

## 2.6. Broiler industry composition in South Africa

More than 80% of the broiler producers consist of small enterprises in both the formal and informal sector. The broiler industry plays an important part in the South African food industry as it provides 62,2% of the locally produced animal protein consumed. The industry also contributes to the GDP of the country. A further important aspect is that the industry is an important contributor to job creation (SAPA, 2010). Approximately, ten percent of all agricultural workers are employed within the poultry sector. Broiler industry employment represents 35 000 direct employment positions and an estimated 48 000 opportunities in both formal and upstream markets (SAPA, 2010).

The broiler meat industry in South Africa is dominated by two large producers, RCL Foods and Astral. Together they produce 46% of the total broiler meat in South Africa. Medium-sized producers, such as Chubby Chicks, Rocklands, Daybreak and Tydstroom produce more than 50 million broilers per annum (GAIN, 2013).

In 2013, RCL Foods, which owns the RCL Foods, Bonny Bird and Farmer Brown brands was the largest vertically integrated broiler meat producer in South Africa, holding an approximate market share of 25%, and produces approximately 239 million broilers per annum. The Food Solutions Division of RCL Foods dominates the quick service restaurant sector with tailored solutions for leading customers, including Kentucky Fried Chicken, Nandos, Chicken Licken, and Steers. Food Solutions also offers high quality products and reliable service to national contract caterers, a number of independent fast food outlets,

industrial caterers, mines, restaurants, hotels, clubs, hospitals, schools and various state institutions (SAPA, 2010).

Astral and County Bird, both broiler meat producers, are subsidiaries of Astral Foods. In September 2004, the Competition Commission approved the merger of the two subsidiaries. Post this transaction, their market share in the broiler meat industry increased to 34%. By 2008, Astral was producing 3,4 million broilers and Country Bird produced 1,2 million broilers per week (SAPA, 2008).

Tydstroom Pluimveeplaas, Daybreak and Chubby Chicks each hold 4% of the broiler meat industry market share. Rocklands, a subsidiary of JSE-listed Sovereign Food Investments, is the seventh largest broiler producer in South Africa and its broiler meat is marketed under the Crown label (SAPA, 2008).

## **2.7. Broiler marketing channels**

Broiler meat production is provided by two principal sectors; the commercial and small-scale sectors (Figure 2.3). Live broiler meat is marketed mainly through two channels, either by the live broiler meat markets or the abattoirs. The majority of broiler meat from commercial farms is sold through abattoirs whilst most of the meat from the small-scale sector is sold through the live broiler meat market. The live broiler meat market depends on hawkers and small retailers for distribution to customers (SAPA, 2010).

Abattoirs slaughter broilers and sell the carcasses to food processors and packers who, in turn, may export or sell to retailers and processors. Processors and packers also rely on imports for their broiler supplies. Processors sell to retailers for final distribution to the consumer.

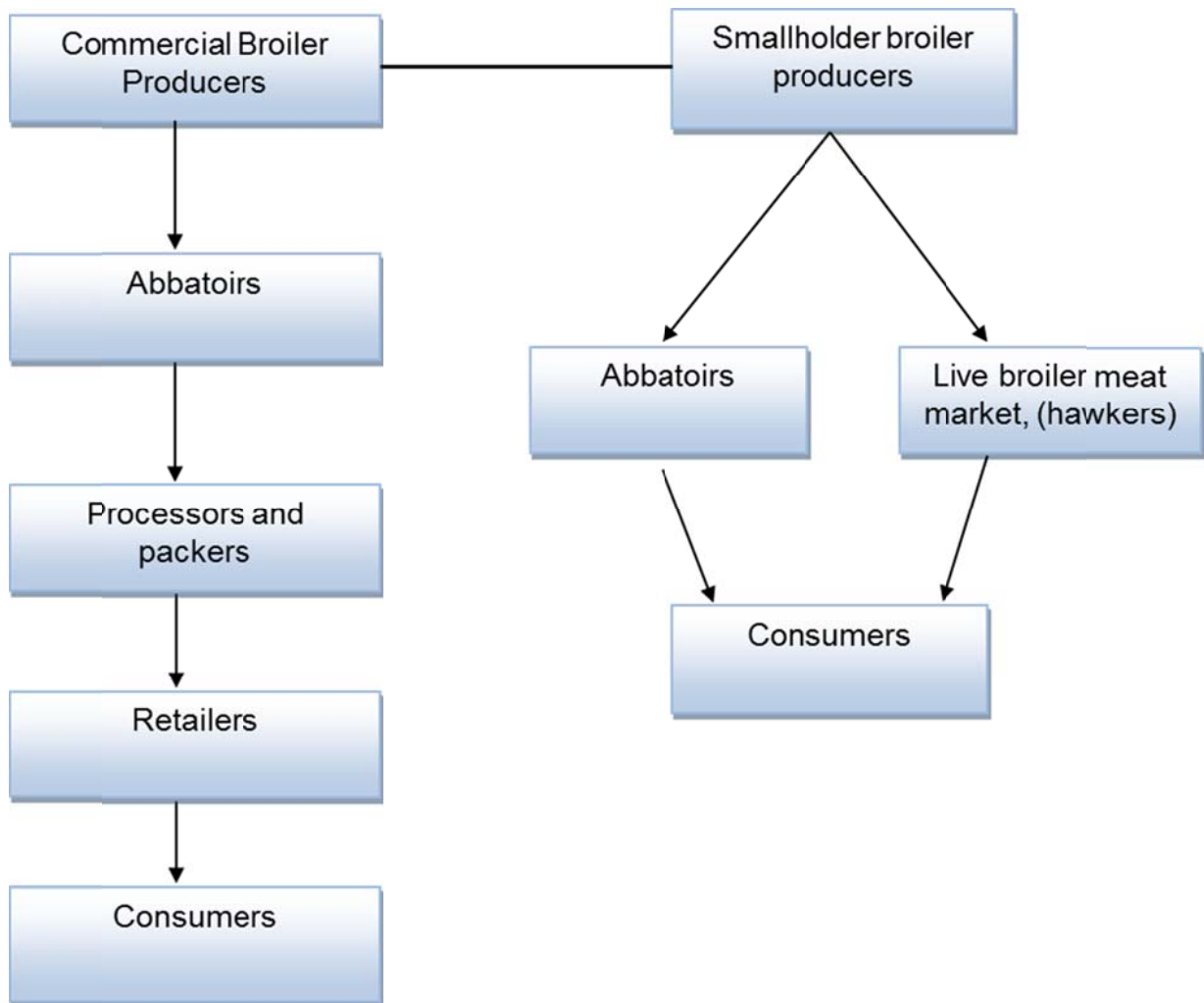


Figure 2.3: Broiler marketing channels in Gauteng Province, 2011 (SAPA, 2010)

## 2.8. Summary

The prominence of broiler production and the importance of broiler meat in its role in feeding the population in Gauteng have been highlighted. The broiler industry in Gauteng dominates the animal meat sector with 49% of the animal meat per capita consumption coming from the poultry sector. There has been a phenomenal growth of over 60% in poultry consumption (mainly broiler meat) over the last few years.

The broiler producer composition in South Africa was explored and Gauteng contributes only 5% of the total broiler meat production for South Africa with the bulk of the production coming from the North West Province. Marketing channels that are used in Gauteng, the small-scale sector being vibrant, and the roles of the chain actors have been explained.



## CHAPTER THREE

### REVIEW OF THE LITERATURE ON THE DETERMINANTS OF MARKET PARTICIPATION FOR SMALLHOLDER FARMERS

This chapter reviews literature on the factors that influence the ability of smallholder farmers to actively participate in markets. The chapter begins with a discussion of factors affecting market participation and then discusses factors limiting smallholder farmer participation in markets. The review covers factors that affect smallholder farmer and trader participation in markets, trends in food markets and how these have hampered smallholder farmer participation.

#### **3.1. Factors which affect market participation by smallholder farmers in South Africa**

All smallholder farmers, irrespective of their selected farming niche are faced with many difficulties before being able to enter the market. Most lack the knowledge, information and resources required to meet formal market specifications. A lack of formal contractual agreements to enable them to meet these requirements further discourages these farmers from investing in such an enterprise. In addition, these requirements (quality of the product, sanitary measures) are such that they overwhelm the technical and organisational capacities of the small entrepreneur (Bienabe and Sautier, 2005).

The general inability of smallholder farmers to maintain the required levels of quality, safety, quantity and consistency of their product impedes entry to markets. Limited time for and capacity to manage and monitor small-scale farmers on the part of retailers, wholesalers, supermarkets chains and other potential buyers prevent the creation of contracts with these farmers. Effective interaction by the aforementioned participants, which would be required for interacting with smallholder farmers, is prohibitively costly. Enforcement of contract costs is extensive. As a result, in South Africa, the relatively stable and cost-effective supplier base provided by commercial farmers is preferred as the source of broilers.

Modernisation of the global retail food system which has stringent statutory quality assurance (QA) requirements further marginalises smallholder farmers. Research by Reardon (2009) demonstrated that, as the agricultural sector in South Africa transforms, commercialisation of smallholder farmers and their intermediaries require systems that are

more responsive to their needs. These include access to markets, market information, market intelligence and, at times, effective farmer cooperatives.

Green *et al.* (2006) studied the influence of household wealth in Mozambique on the participation of smallholder farmers in markets. They showed that private household assets, especially land, livestock, labour and equipment are markedly positively aligned with market participation. Those households with access to adequate assets and infrastructure as well as appropriate incentives to do so, engaged effectively in markets. However, those households lacking one or more of these three essential requirements did not. In a further study, Barret (2008) reported that there were strong associations between household asset holdings and their market participation. Wealthier households participated more in markets than did the less well-resourced counterparts.

Although marketing chains are changing, smallholder farmers in developing countries are not yet able to meet the requirements of high-end retail supermarkets and therefore traditional markets continue to play a vital role in the agricultural systems of sub-Saharan Africa (Reardon, 2002). Research by Hazell *et al.* (2009) emphasised the many broad global forces influencing smallholder farmer involvement in markets, such as the anticipated impacts of these forces on small farms, as well as their implications for policy.

### **3.2. Factors limiting the participation of smallholder broiler farmers in markets**

In this section, specific factors that limit market participation by smallholder farmers are discussed. These include:

- i) Globalisation and vertical integration;
- ii) Historical legacies;
- iii) Lack of adequate support services;
- iv) Lack of a conducive and supportive policy framework; and
- v) Recent trends in retail food markets.

#### **3.2.1. Globalisation and vertical integration**

As a result of multilateral trade liberalisation, the trend of market-orientated reforms in developing countries, particularly structural adjustment programmes, has led to an increased integration of world markets (Reardon and Barrett, 2002). Globalisation has opened up the world market and has markedly increased trade between countries. However, this trend has had a negative impact on smallholder farmers who are often at a disadvantage relative to the more established and economically viable commercial farmers. The latter have superior

access to information, agro-services and financial capital. As a result, commercial farmers offer larger volumes of quality products to potential markets (Johnson and Berdegue, 2004). Smallholder farmers struggle and continue as insignificant players on the market.

The changes in food and agricultural markets have influenced the need for improved levels of managed coordination. Different forms of vertical alliances have emerged as a result and are now a dominant feature of agricultural supply chains (Kirsten and Sartorius, 2000).

Smallholder broiler farmers in the South African poultry industry are by no means an exception. The industry is dominated by large, vertically integrated commercial broiler producers who have integrated across the entire supply chain and offer large volumes of high quality produce to the retail market. Such companies include the RCL Foods group and Astral (Table 1.1 and Section 2.6).

In the South African broiler industry, contract farming and vertical integration are the most common forms of arrangement. The owners of processing facilities, who are themselves often producers of considerable numbers of broilers, in order to meet demand, sometimes contract out for additional production by large and/or small-scale producers. Thus, these companies can dictate terms within the broiler industry, and therefore introduce a major concern that the requirements, quality standards and food safety issues of the consumers and supermarkets act as effective barriers to participation by small producers in markets. It is apparent that smallholder broiler farmers in South Africa face numerous insurmountable barriers to participation in this lucrative industry (SAPA, 2009).

### **3.2.2. Historical legacies**

Between 1928 and 1955, many different measures were promulgated in South Africa by successive governments. Most of these served to undermine rural production and associated land-based livelihoods. The creation of the South African Native Trust in 1936 led to imposed systems of control of livestock. It also introduced the division of arable and grazing land and legally enforced residential planning and soil conservation numbers in the rural areas (Boyce, 2009). As a result, a dual agricultural sector developed and still persists. Today, in South Africa, a modern capital-intensive organised agriculture dominates over the traditional subsistence small-scale communal sector.

Between 1928 and the 1980s, most of the agricultural assistance provided by the State was given to the newly acquired white farmlands providing substantial benefits to the white

farmers in South Africa. After the 1980s, deregulation of the agricultural sector commenced. For the first time, there was financial assistance, such as subsidies, for many previously unsupported sectors of agriculture under the auspices of Agricultural Credit Board and the Land Bank. In addition, infrastructure was provided for many as was support from agricultural research and extension. (Singini *et al.*, 1995).

However, smallholder market participation in commercial agriculture remains problematic in South Africa, where historical legacies have contributed to the exclusion of small scale black farmers (Van Zyl and Kirsten, 1999). As procurement of agricultural commodities increasingly bypass the spot market and procurement deals are done merely on the basis of trust and social networks, black farmers continue to find themselves more excluded.

### **3.2.3. Lack of support services for smallholder farmers in South Africa**

In 1976, the homeland era commenced with the independence of Transkei. This opened the way for homeland extension support and the development of new parastatals, such as Tracor and Agriwane, which provided such services to smallholder farmers. An assessment of extension services immediately prior to the homeland era noted that while 90 000 rich, educated white farmers had 3 000 extension officers, there were less than 1000 extension officers available to 600 000 small-scale farmers and that these officers were specifically designated to provide services only on irrigation schemes (Williams and Mayson, 2008).

Between 1987 and 1993, the Farmer Support Programme (FSP) focused on small farmer extension service supply in the homeland areas. A review of this programme by Hayward and Botha (1995) revealed that the extension support was generally poor. There was no meaningful contact between extension and the research worker, methods were outdated and incorrect advice was given. Together, all of these factors contributed to the accumulation of considerable debt among many smallholder farmers.

Between 1998 and 2001, State spending on agriculture declined by 45% (Vink and Kirsten, 2003). In South Africa, recent government support for agriculture has been substantially reduced, whereas by contrast, in the European Union and America, farmers have benefitted from increased state support. Rapidly escalating farming input prices, exacerbated by markedly reduced state support for agriculture have combined to force many smallholder producers out of business in South Africa.

Currently, most of the government support to farmers in South Africa is through the Land Redistribution for Agricultural Development, (LRAD) which supports emerging farmers in developing commercially viable agricultural operations (DAFF, 2010). The financial service pillar of the Comprehensive Agricultural Support Programme (CASP), within the Micro Agricultural Financial Institution of South Africa (MAFISA), is responsible for providing loans to eligible farmers to encourage increased productivity in farming and agribusiness operations. An allocation of R1 billion was made for the period 2010/11 and was spent on training farmers and the Extension Recovery Plan. The latter particularly supported general agricultural extension services and the upgrading of the qualifications of extension officers. Other funds were spent on the development of agricultural colleges, which existed in all provinces apart from the Northern Cape and Gauteng (DAFF, 2010).

The Ilima-Letsema programme, also under the auspices of CASP focuses on increasing food production, rehabilitating irrigation schemes and other value-adding projects. Government is also sponsoring the Landcare Programme with particular emphasis on fencing and soil conservation. By 2010, 150 projects had been implemented, creating a total of 8 445 work opportunities (DAFF, 2010).

According to Hazell *et al.* (2007), it is widely acknowledged that small and medium size farmers in Africa face market constraints or imperfections. These included restricted access to credit, and insurance and specialized inputs at above-average costs. Government support services to agriculture provide no compensation for these. Poor market information and further transaction costs derived from weak market integration make these smallholders less competitive in the new open market economy. This presents a real danger in that a majority of small-scale farmers in some developing countries could be completely excluded from commercial supply chains. This has serious implications for future sustainability of small farms (Hazell *et al.*, 2007). Altogether, the lack of adequate support services continues to place the survival of smallholder farmers at risk and marginalises such that they remain in peripheral markets.

### **3.2.4. The lack of a conducive and supportive policy/ environment**

Kirsten *et al.* (2002) argued that although the increased procurement of raw commodities from black farmers forms part of the national priorities of South Africa, there is no specific vision or policy to promote business linkages, such as the creation of contracts to include this category of farmers in the agro-processing supply chains of South Africa. There also appears to be a general reluctance, on the part of agribusiness to include black smallholder

farmers in their supply chains due to the incremental transaction costs resulting from working with a large number of smallholder farmers.

The World Bank (2008) suggested that the market development approach provides a framework as this has demonstrated that markets which function well are essential for stimulating agricultural productivity and profits. These, in turn, would stimulate agricultural growth and reduce poverty. Building effective markets required a conducive policy environment to ensure improvement in infrastructure, communications and removal of barriers to smallholder farmer participation. This would assist the expansion of agribusinesses and provide long term benefits for both producers and the public. Reducing transaction costs and risks in agro-commodity markets would promote more rapid growth of impoverished farmers, thus benefitting the poor (World Bank, 2008).

A report by Jayne *et al.* (2006) suggested that most small farms in Africa were becoming increasingly unviable as sustainable economic and social units. Jayne *et al.* (2006) suggested that unless government policy was markedly altered, increasingly frequent and severe economic and social crises would occur in sub-Saharan Africa. A meaningful agricultural growth strategy aimed to support the smallholder farms was needed to match “pro-poor” agricultural growth with necessary financial assistance for public investments, and a supportive and stable policy environment.

### **3.2.5. Trends in food markets and their indirect role in smallholder farmer exclusion**

Cornelis and Van Der Meer (2006) proposed that changes in consumer demand, disposable income, food safety concerns and the rise of modern retail systems are the main drivers of market changes. With higher per capita income and changing lifestyles, demand for increased food variety and improved quality has escalated. In addition, the consumer increasingly expects availability of year-round supplies of fresh produce, ‘healthy’, convenience, value-added and ‘ready-to-eat’ foods.

Information technology, logistics and advances in food processing and post-harvest handling have greatly enhanced the development of global sourcing and retailing. Trade liberalisation has contributed to a rapid growth of international trade in food (Diop and Jafee, 2005).

Economies of scale are important in retailing, transport, logistics and processing of foods. A distinct amalgamation of the retailers, food services and food processors is apparent. Food safety concerns have been an important accelerator of change in food market development.

Many countries have seen food scandals and food scares. Important examples include Bovine Spongiform Encephalopathy (BSE), commonly known as 'mad cow disease', high residual pesticides and antibiotics in foods, microbiological hazards, including *Salmonella*, *Listeria*, viral hepatitis, and avian influenza. These scandals and scares received major attention in the media and contributed to consumer concerns over the provision of 'safe foods'. Fears of bio-terrorism have aggravated the situation. As a result, food laws and regulations have been revised in Japan, the European Union, EU), the USA and elsewhere (Cornelis and Van Der Meer, 2006).

Agribusiness industries and the smallholder farmers have been much affected by food safety crises over the last decade. Smallholder farmers have experienced heavy financial losses as stock had to be discarded, and supplies were interrupted. In certain cases, there was considerable damage to company and brand names.

According to Swinnen (2004), many reputable food companies treat food safety not only as an important commercial risk, but also as an opportunity to distinguish themselves from competitors. As such, they deal with food safety risks through increased control of the supply chains from farm to table. They abandon open markets with anonymous suppliers and instead turn to integrated or coordinated supply chains. This usually involves reliance on preferred suppliers who assure food safety through tracking and tracing, and independent certification of good agricultural and good manufacturing practises (Swinnen, 2004). These trends in consumer demand, retailing and food safety management are most visible in the high-income industrial countries. In developing countries similar trends can be observed principally in the urban areas where per capita incomes are relatively high (Swinnen, 2004).

### **3.3. Summary**

This chapter reviewed smallholder farmer determinants to market participation that affect greater smallholder farmer market participation in high value markets. Factors limiting smallholder farmer participation were examined including globalisation and vertical integration, lack of adequate support services, historical legacies, lack of a conducive and supportive policy environment and trends in food markets.

Globalisation and vertical integration render South African smallholder broiler farmers not competitive and falling short of the required quantities to be supplied, consistency in supply and high standards of phytosanitary requirements.

The issue of government not creating an enabling and supportive environment for small-scale farmer growth was prominent since farmers need access to capital and access to extension services which hamper their growth.



## CHAPTER FOUR

### STRATEGIES FOR PROMOTING SMALLHOLDER FARMER MARKET PARTICIPATION

This chapter looks at strategies that have been applied globally to address the marginalisation of smallholder farmers in market participation. A number of innovations have been devised to try and stimulate agrarian transformation, contributing to the greater involvement of smallholder farmers throughout the world. These include collective action, vertical integration with smallholder farmer subcontracting, commodity chain approach and deal structuring, warehouse receipt systems and contracting.

#### 4.1. Collective action theory and deal structuring

By reducing transaction costs and increasing the bargaining power of smallholder farmers, collective action is a factor that could influence the participation of smallholder farmers in markets. There is evidence that cohesive groups of farmers, such as a cooperative, offer one of the most effective ways to promote the participation of smallholder farmers in markets. Acting collectively, smallholder farmers would be in a better position to reduce transaction costs of accessing inputs and outputs, obtain market information, secure access to new technologies and tap into high value markets. This would permit them to compete with established commercial farmers and agribusinesses (Stockbridge et al., 2003).

In a study conducted by Mazula (1998) concerning the commodity chain approach and deal-structuring, it was found that deal-structuring tools could be used to incorporate rural economies into the mainstream economy by enabling rural economies to participate in the different levels of the value addition process of a commodity. The incorporation of rural economies could result in the formation of formalised groups, co-operatives or business commodity associations or growers' trusts. These are organised such that they introduce a critical mass of the rural populace to the concept of collective action to exploit economies of scale. Strategies such as institutional support packages, guarantees, forward contracts and other similar incentives are used to encourage smallholder farmers through organised groups to deliver quality supplies of commodities in bulk quantities. The application of these schemes could result in improved incomes to farmers. In the final analysis, farmers participating in these innovative approaches could also motivate others to adopt these new business-orientated methods of production. The overall objective is commercialisation of smallholder agriculture (Coulter and Onumah, 2002).

The Chibuku Breweries promotion of red sorghum in Chivi, Zvishavane and Masvingo districts in Zimbabwe is a good example of deal structuring. Chibuku Breweries signed forward contracts with smallholder farmers to purchase the NS552 variety of red sorghum from them at a fixed price. Bags and transportation were to be provided by the company. The farmers were encouraged to work in groups and produce a minimum set target of 28 metric tonnes (equivalent to production from an area of 20 hectares) of sorghum per season. This programme had a positive outcome in terms of market participation due to the reduced transaction cost. The breweries provided advance financial input which was deducted after the harvest had been sold. As a result, farmer participation in the scheme was considerable (Coulter and Onumah, 2002).

#### **4.2. Warehouse receipt systems (WRS)**

The WRS system has been implemented in Africa and elsewhere. In Africa, it is particularly advantageous as impoverished farmers have limited access to credit and the WRS is a system which provides trade security. In the WRS, commodities of defined quantity and acceptable quality are deposited at a particular location (warehouse) by named depositors (farmers). Depositors are required to pay for storage. The commodities are stored in bulk by the warehouse operator, and depositors are able to leverage finance against the stored commodity. Storage of the commodity in bulk means that sales of the commodity can extend beyond the harvest season, thus elevating selling prices. This benefits the smallholder farmers. The warehouse operator undertakes to store the goods such that they maintain optimum condition, and if quality deteriorates during storage, the operator will be held responsible for any financial losses incurred as a result. The operator supplies the depositor with a receipt which provides evidence of the commodities being deposited by the farmer (Budd, 2001).

There have been various attempts by NGOs to establish inventory credit systems for small farmer groups. A well regulated WRS offers an institutional device which would enhance agricultural trade in Africa by allowing beneficial market transactions that would otherwise not occur (Coulter, 2002).

According to Onumah (2010), market institutions such as the WRS, commodity auctions and exchanges were established to monitor quality and quantity of goods supplied, and to detect poor performance by contractors in the systems. These combined systems improve access

to both trade finance and opportunities for risk management, thus enhancing commodity marketing at domestic, regional and international levels.

In Tanzania, smallholder coffee and cotton producers have, through their rural cooperative societies, used the WRS to increase their earnings from coffee and cotton production. The societies produce coffee and/or cotton of acceptable quality in bulk for storage. As a result, products that conform to export standards are marketed and participants in the scheme obtained an incremental income of between 45 and 50% (Onumah, 2010).

In Zambia, the WRS enabled smallholder farmers to bulk and directly supply grains to large-scale local millers. This made it possible for the farmers to obtain a net incremental income of 37.5% (approximately US\$45 per tonne of maize). The sale of the stored grains beyond the immediate post-harvest period was delayed. The result was that while prices of the commodity were low immediately post-harvest, improved prices were readily obtained when selling later in the season thus ensuring the incremental income (Coulter, 2002).

Since the mid-1990s, most grain and oilseed producers in South Africa have been using an agricultural commodity exchange to market their produce. This exchange, in conjunction with the Silo Receipt System, makes it possible for farmers to obtain finance and manage price risks (Coulter, 2002).

### **4.3. Vertically integrated strategy**

In the South African broiler industry, vertical integration is the most common form of arrangement. The owners of processing facilities, who are themselves often large producers of broilers, sometimes contract out for additional production with large and/or small-scale producers.

The industrialization of agriculture in many developed countries has resulted in a stringent alignment of supply chains and has promoted the emergence of fewer large commercial farms (vertical integration). This is clearly evident in the broiler industry in South Africa. It has been suggested that this trend could exclude small-scale farmers in developing countries from profitable niche markets. In this respect, it is also argued that smaller operations, not linked with large vertically integrated agribusiness, will experience increasing difficulty in creating the economies of the size required in order to be competitive. It could also hinder access to much-needed technologies. It is against this background that governments are looking for working models to promote sustainable smallholder farmer participation with

dominant vertically aligned agribusinesses in the various sectors of agriculture (Kirsten *et al.*, 2002).

#### **4.4. Contract farming**

Contract farming has the potential to link farmers to markets and to stimulate agricultural production in the face of globalisation. Contract farming also serves to fill the void left by governments in the wake of market deregulation under the Structural Adjustment Programmes carried out in a number of countries in Africa by providing inputs, technologies, credit and other services. To revive agriculture in Africa, contract farming has been given a central role in the New Economic Partnership for Economic Development (NEPAD) (NEPAD, 2006).

Contract farming offers many benefits for participants, including access to new markets, technical assistance, specialized inputs, and financial resources. Over time, as businesses contract with smallholder farmers, contract farming has the potential to raise incomes of the poor and promote rural development.

Since the 1960s, in South Africa, contract farming has been a feature of the agricultural system. A principal reason for businesses not contracting with smallholder farmers is the prohibitive transaction cost associated with providing inputs, credit, extension services, product collection and grading. A case study which reported on the Mexican frozen vegetable industry described many of the difficulties companies in the Mexican frozen vegetable industry experienced when creating and implementing contracts designed to minimize the costs incurred when working with large numbers of heterogeneous growers. However, while some companies were able to structure the delivery of their services so as to reduce transaction costs, many found it easier and more profitable to deal only with a few large growers (Key and Runsten, 1999).

Sartorius and Kirsten (2002) demonstrated how the South African agribusiness sector could contribute to the transformation of the commercial farm sector by increasing the volume of produce procured from black farmers through various forms of contracting. The study illustrated a potential 'win-win' situation for government, agribusiness, and the agricultural input manufacturers. It also indicated the manner in which limited government resources can be optimally leveraged. The authors further suggested putting the onus on individual agribusiness companies to invest in, and procure stock from black farmers by advocating

appropriate government policy and programmes to make this achievable (Sartorius and Kirsten, 2002).

Two major problems associated with contracting are contract default and enforcement, and the scale of farming operations which result in extensive unit transaction costs. In addition, strict demands for consistency of quality products and the weak bargaining position of farmers further contribute to the problems faced by smallholder farmers when attempting to enter into high value markets.

#### **4.5. Summary**

This chapter reviewed strategies that have been employed to try and stimulate the involvement of smallholder farmers in high value markets. Strategies that have been used to try and promote smallholder farmer participation in markets were discussed. These included smallholder farmer subcontracting, commodity chain approach and deal structuring, warehouse receipt systems and contracting.

The case of vertical integration in the vegetable marketing sector in Mexico and South African broiler markets was discussed. Sub-contracting smallholder farmers has its own challenges as smallholder farmers are sometimes not able to meet the quality requirements of sub-contracting for the large vertically integrated producers.

## **CHAPTER FIVE**

### **SAMPLE CHARACTERISTICS AND DATA COLLECTION**

This chapter provides a description of the geographic area in which the study was conducted. Reference is also made to data collection and analysis. Socioeconomic as well as economic characteristics of the farmers interviewed are described.

The level of smallholder broiler production in Gauteng was to be ascertained by using calculations from secondary statistical data. Information on farmer-related determinants, (education level, age, gender) as well as broiler marketing and non-farmer related determinants (government policies, capital requirements) was collected.

A vertically integrated producer was interviewed to ascertain requirements for smallholder farmers who wished to qualify as subcontractors with such a producer. The financial viability of relevant small farmer enterprises was determined.

## 5.1. Demarcation of the study area



**Figure 5.1: Geographic location of the study area in Gauteng, South Africa (Midvaal Local Municipality, 2013).**

The study area is located on the southern side of Gauteng in the Midvaal Local Municipality, an administrative area in the Sedibeng District of Gauteng. Midvaal is located halfway between Johannesburg and the Vaal/Vereeniging area in South Africa.

Midvaal comprises Meyerton, Walkerville, Eikenhof, Vaal Marina, Randvaal and Suikerbosrand. The Midvaal Local Municipality is one of the most rapidly expanding municipalities in Gauteng and is undergoing rapid economic growth. Previously, Midvaal was a quiet rural area, but is now considered a major tourist hub, and the population has increased from 60 000 in 2001 to 90 000 residents in 2010. The Municipality has an estimated population of 95 300 people, which constitutes approximately 0,7% of the

Gauteng population. The average annual population growth since 1996 has been approximately 4,27% (Midvaal Local Municipality, 2013).

Several new businesses have invested in the Midvaal region during the last few years, creating employment opportunities for the local community. A major achievement of this municipality was attracting Sedibeng Breweries which distributes Heineken beer in South Africa, into the area. This resulted in many opportunities for both creation of employment and small business development. It is a prime agricultural area and the bulk of Gauteng smallholder producers are located in Midvaal. The unemployment level in the Midvaal region is currently below 12% and since 2002, there has been a consistent decline recorded for the unemployment rate.

Midvaal is well-endowed with high and medium/moderate potential agricultural land which is deemed to form part of the Gauteng “bread basket”. The protection and sustainable utilisation of this resource is managed through the Midvaal Agricultural Policy (2011) (Midvaal Local Municipality, 2013).

The spatial structure of the Midvaal municipal area is predominantly rural and extensive farming constitutes approximately 50% of the total area of jurisdiction. Several natural features, which present significant tourism opportunities, occur in the area, of which the Suikerbosrand Nature Reserve, the Klip River and the Vaal River are the most prominent ([www.midvaal.gov.za](http://www.midvaal.gov.za)).

The region also falls within the Grassland Biome, which includes approximately one-third of the mammal species of South Africa. The Klip River is an important habitat for birds and small animals.

## **5.2 Data collection**

To achieve the objectives of this study, three critical participants of the smallholder broiler production and marketing were selected. These were:

- i) Emerging broiler farmers (suppliers) in Midvaal during 2011. Three farmers were identified. They were selected as they were considered to be representative of the commercial smallholder farmer category which produces sizeable batches of broiler chickens (an excess of 500 broiler chickens per week) throughout the year. A questionnaire (Appendix A) was used to interview the farmers. To assist



in targeting and formulating the questions, a literature review was conducted. This review identified previous related research and this was used to design refined and insightful questions for those to be interviewed.

- ii) Three key markets involved in broiler marketing in Midvaal were identified. These were Pick n Pay, Spar, and Shoprite retail supermarket chains. An interview guide was used to guide the discussions (Appendix B).
- iii) An established vertically integrated producer was consulted. This was RCL Foods which informed this study about the financial capital and infrastructural requirements necessary for smallholder broiler farmers to ensure they were eligible for recruitment as contract producers of broilers.

In addition to data obtained from the above, the following sources were used:

- i) Organisations connected to the broiler industry, including
  - National Agricultural Marketing Council (NAMC);
  - Department of Agriculture, Forestry and Fisheries (DAFF) and
  - South African Poultry Association (SAPA).
- ii) Relevant government policies which influence the role of the smallholder farmer in market participation.

All participants were interviewed using semi-structured questionnaires, developed especially for this study, such that all who participated were accommodated (Appendices A and B).

### **5.3. Case study approach and associated limitations**

A case-study approach was used in this study as it has the benefits of collecting factual primary agricultural production and marketing data. Simultaneously, the method provides a means to comprehensively study the challenges faced by the smallholder farmers who market broilers.

In the social sciences, case study research is a descriptive, exploratory or explanatory analysis of a person, group or event. An explanatory case study is used to explore causation in order to find underlying principles (Lamnek, 2005).

Case studies permit collection of many details, normally not easily obtained by other research methodologies. Furthermore, the data yielded by this method of investigation provides an in-depth survey of a selected situation. Case studies enable the researcher to explore the study background in detail. Furthermore, using case study techniques, the investigator can focus on the research problem and thereby understand the relationship between given events (Woodside, 2010).

However, the case study approach has its limitations. One of the main criticisms of case studies is that the data collected cannot necessarily be generalised to apply to the wider population. This leads to data being collected by longitudinal case studies not always being relevant or particularly useful. Case studies also tend to collect mainly qualitative data limiting the application of commonly used statistical approaches. It is a well-known fact that each person has a different outlook on similar events. Hence case studies provide different solutions for the same problem. Thus, the result might be biased in disclosing some of the research issues or some key facts may even be ignored. Therefore, the case study research strategy will not show the actual position of the problem and may be a photocopy of the original research (Yin, 2011). The implication of the above is that, while the results of this study might be useful, they cannot be generalised to the relevant population.

#### **5.4. Data collection for each research objective**

##### **5.4.1. Extent and level of market participation of the smallholder broiler subsector**

###### **Quantification of weekly sales of broilers from the Gauteng smallholder sector**

The weekly production of broilers in South Africa was categorised according to the number of broilers produced by various producers. These were large producers, medium producers and small-scale producers. The extent of broiler production attributed to small-scale producers and medium scale producers nationally was calculated.

From existing data for 2010, the national small-scale production level for South Africa was extracted from the total national weekly live broiler production (SAPA, 2010). The contribution from Gauteng was calculated as 50% of total smallholder production. This figure was based on the fact that Gauteng has the most concentrated informal markets in South Africa, as well as the highest human population numbers consuming broiler meat. The number of small-scale producers serving this market was therefore expected to be substantial.

#### **5.4.2 Farmer-related determinants affecting market participation**

Information collected was used to identify determinants of smallholder farmer participation in the broiler subsector. The data gathered covered information relevant to:

- i) number of years the farmer had been involved in broiler farming (farming experience);
- ii) education levels of the farmers (i.e. elementary, secondary, tertiary and university graduate level); and
- iii) gender of the broiler farmers.

A gross margin analysis was conducted to determine the financial viability of the smallholder farmer broiler enterprise as well as the economic status of the farmer. The income level of the business per annum was established by calculating the revenue the farmer expected from each batch of chickens and then multiplying the revenue by the number of batches reared per year. Information on all the costs incurred and income generated by the farmer enterprises was also collected.

The information extracted from the smallholder farmer questionnaire probed the reasons determining whether their enterprises were competitive or not. This gave an understanding of the challenges faced by smallholder farmers in supplying the formal markets.

#### **5.4.3. External determinants affecting smallholder broiler market participation**

Interviews were conducted with other stakeholders such as the SAPA and the NAMC. External determinants were identified as monetary requirements which acted as barriers for entry into the markets by smallholder broiler farmers. Government policies were identified as another potential external determinant influencing the broiler industry.

#### **5.4.4. Capital requirements and barriers to entry to formal markets**

Capital required to set up a broiler enterprise as a contract farmer to an established vertically integrated producer, such as RCL Foods, was identified in the literature as a barrier. It was therefore treated as an external determinant of market participation.

RCL Foods was interviewed to ascertain the capital and infrastructural requirements before recruiting a farmer as a contract producer. Data obtained included the minimum number of

broilers a farmer must supply and the essential infrastructure required in order to qualify as a subcontractor.

#### **5.4.5. Government policies**

Over the years, imports of broilers have been increasing and currently form a significant part of supply to the South African markets. Key industry players including farmers and organisations such as SAPA were interviewed to ascertain their views regarding the anti-dumping policies in place.

### **5.5. Summary**

The data collection methods utilised in the study were discussed. The manner in which each objective would be analysed to ensure that appropriate data was collected is described. The study included both quantitative and qualitative methodology utilising case studies for the emerging broiler farmers and semi structured interviews for the key informants on the broiler demand side.

The case study methodology was appropriate for this study as it enabled a collection of factual information acquired using a formal questionnaire and it would also enable a thorough and more holistic understanding of the challenges faced by the farmers in selling to markets.

## CHAPTER SIX

### RESULTS AND DISCUSSION

This chapter presents the socioeconomic characteristics of farmers and farmer-generated responses to interviews as well as stakeholder feedback on the factors that influence the participation of smallholder farmers in the broiler market. The size of the smallholder sector, the level of market participation and the external determinants of smallholder broiler market participation is presented.

#### **6.1. Socioeconomic characteristics associated with smallholder broiler farmers.**

For the purposes of this study, farmers producing a minimum of 500 birds per batch were considered suitable candidates. Their business was sustainable and they earned R12 500 per week, thus providing a minimum of R50 000 per month in sales. In total, three suitable candidates were selected and interviewed.

##### **6.1.1. Age of the farmers interviewed and farming operational practices**

The average age of the three participating chicken farmers was 46 years. There was no observed correlation between the age of the farmer and the performance of their business enterprise. Two of the farmers in the study utilized their broiler enterprise as their main source of income. Prior to becoming smallholder broiler farmers, all three were employed elsewhere. At the time of interviewing, all three farmers had more than five years' experience in raising their broilers. One had business administration experience, gained from previous employment.

The chicks were sourced from a day old chick (DOC) supplier located in close proximity to an animal feed shop. The farmers transported feed for their poultry using their own or hired motor vehicles (bakkies). The immediate availability of DOCs was a problem when sourcing birds. A further limitation to business expansion was the difficulty in obtaining financial capital. The farmers each employed at least five workers to assist with the farming enterprise. Most of the workers did not possess the skills required for farming such as control of disease within the flocks. Most of their skills were subsequently acquired by training, whilst working with the smallholder farmers.

The farmers chose to run broiler enterprises because of the rapid six-week turnaround period from the time of investment to profit realisation. Some of the farmers had received land from DAFF. This land had been previously used as chicken farms and thus provided immediate housing for chickens.

### **6.1.2. Education and gender**

Although both men and women farmers are involved in broiler production, women farmers were handling much lower volumes of broilers than were their male counterparts. No women in the Midvaal Local Municipality were producing 500 birds per week. Therefore, for the purposes of this study, only male farmers were interviewed.

Of the three interviewed farmers, two had attained a secondary education, and one had studied only up to elementary level.

## **6.2. Description of the smallholder broiler production system**

Smallholder chicken production in Midvaal uses genetically bred DOCs. The three farmers interviewed had adequate housing facilities for the poultry. These farmers had knowledge of, and, therefore, used adequate animal husbandry practices. In order to ensure the production of broilers of acceptable quality, they routinely carried out the following:

- i) The housing was correctly prepared for the arrival of new batches of DOCs. This included thorough disinfection of both the outside and inside and the use of fresh sawdust;
- ii) Birds were stocked according to appropriate density;
- iii) Suitable temperatures were maintained in the housing;
- iv) Drinkers and feeders were allocated appropriately, according to number of birds housed;
- v) Ventilation in the housing was correctly controlled;
- vi) Correct disease and vaccination programmes were adhered to; and
- vii) Broilers were dewormed.

## **6.3. Markets identified for the sale of broilers by smallholder farmers**

### **6.3.1. Farmers selling directly to consumers**

Farmers loaded broilers onto transport vehicles and sold directly to the consumer. This was primarily in the townships, peri-urban and rural areas. This occurred throughout a year. Peak sales were recorded during holidays and the Christmas period.

### **6.3.2. Hawkers buying from producers for resale to consumers**

At times, farmers sold to hawkers who bought birds from the farms. As hawkers purchased birds in bulk, they paid the farmers lower prices than those bought through direct sales. These hawkers then resold the birds at a profit.

### **6.3.3. The practice of “custom-processing”**

In the process known as “custom-processing”, farmers paid abattoirs to slaughter their chickens. One “custom processor” in the Midvaal area in Gauteng charged R2.50 to process and package a single bird.

## **6.4. Description of small farmer business management practices**

To transport their birds in bulk, two of the farmers interviewed utilised hired vehicles (bakkies). One of the farmers owned his vehicle and, therefore, did not experience problems associated with transport.

None of the farmers interviewed had undergone any formal training in broiler management. However, two of the farmers received some appropriate training from DAFF.

To avoid the costs incurred by slaughtering and packaging, farmers preferred selling their chickens live when aged six to seven weeks directly to consumers and/or hawkers. These practices are followed by most smallholder broiler farmers. However, one of the three farmers interviewed, who produced the highest number of broilers, did use abattoir slaughter. None of the farmers interviewed sold broilers to retailers as the farmers had to qualify to do so. This implied conforming to compulsory higher quality standards for slaughtering and packaging, as required by the retailers.

At the time of the study, the three farmers were selling their chickens at R25 per broiler. The price variation was minimal, but during public holidays such as Easter and Christmas, demand for broiler chickens exceeded supply and prices were increased. During winter, demand for birds decreased slightly. The farmers preferred to sell broilers to the informal markets as these markets lack the compulsory statutory health and hygiene requirements of the formal sector.

The only production constraint mentioned by two of the farmers was the erratic supply of DOCs. This is a nationwide problem as the number of breeders producing chickens is

inadequate. Thus, numbers of DOC supplied remain markedly less than the number required.

None of the farmers interviewed was involved in the processing of birds beyond slaughter and dismembering of the carcasses. Most small producers sold live birds to the informal market. This comprised the spazas, open markets and roadsides. There is a lucrative live-chicken market in South Africa, especially in the peri-urban and rural areas.

The three farmers interviewed stated that the lack of financial capital prevented them from engaging in value adding activities such that they could sell broilers to the formal markets. Thus, without these requirements, the informal market remained the more attractive option.

The farmers interviewed employed more than five workers each who had no prior training in broiler production systems. Over time, these workers acquired expert skills for broiler farming. The maximum number of employees working for a farmer was twelve.

## **6.5. The extent of market participation by the smallholder broiler subsector in Gauteng**

In 2010, the average production nationally was 18,6 million broilers slaughtered per week with a dressed mass of 1,35 kg. Of this total, one million per week was produced by the informal sector (SAPA, 2010). Currently, the broiler industry is considered the major supplier of animal protein to the nation. In 2010, 1.7 million tonnes of broiler meat were consumed in South Africa. This included imported carcasses (SAPA, 2010).

The bulk (80%) of broiler production in South Africa is supplied by 44 stakeholders (SAPA members and non-members). The remaining 20% is supplied by hundreds of medium and smaller broiler producers. Anyone can participate in the broiler market in South Africa but the lack of both sufficient DOCs and the expertise required to run an efficient business prevents many from entering the sector.

Gauteng is the fifth largest supplier of broiler meat in South Africa. None of the large and medium integrated producers is located in Gauteng. Thus, all producers in the province are categorised within the 20% of producers who are independent of the large dominating stakeholders. Based on the fact that all of the medium sized smallholder broiler producers are located outside Gauteng, it is suggested that 12% out of the 20% of the production be



attributed to the medium sized broiler producer. Thus, in South Africa, only eight percent of total broiler production comes from the small producers who each produce batches of a maximum of 2000 birds per month (500 birds per week). As smallholder producers sell one million birds per week nationally, it is likely that smallholders in Gauteng would contribute about 50% (500 000) (Table 6.1). The most likely reason for this large contribution is that Gauteng has the most concentrated informal markets and highest human population density in South Africa.

**Table 6.1: Number of broilers sold per week by Gauteng smallholder producers**

| Type of producer                 | % market supply | Broilers sold per week |
|----------------------------------|-----------------|------------------------|
| Small scale producers, national, | 8               | 1 000 000              |
| Small scale producers, Gauteng   | 4               | 500 000                |

Source: SAPA ( 2010)

## **6.6. Quantities of broilers sold by Gauteng smallholder farmers in the formal markets**

According to a study conducted by SAPA in 2010, the total weekly bird sales, comprising those produced by both large and small-scale producers in Gauteng varied between 500 000 and 744 000 birds. Most of the smallholder producers supply informal markets as their production scale is small (Table 6.2). The formal markets which were dominated by the retail supermarkets, alluded to the fact that most their broiler meat supplies originated from central warehouses. The databases of the warehouses confirmed that the formal market for broilers remains dominated by the large stakeholders who supply hundreds of birds weekly. It was estimated from key interviews conducted in this study, and by research done elsewhere that 90% of the weekly bird production in Gauteng was sold in informal markets and only 10% was sold through the formal markets. The estimated quantities are presented in Table 6.2.

**Table 6.2: Quantities of broilers sold weekly in formal and informal markets in Gauteng**

|         | <b>Total sold in Gauteng</b> | <b>Estimated number sold in informal market (90% of total sold)</b> | <b>Estimated number sold in formal markets (10% of total sold)</b> |
|---------|------------------------------|---|--|
| Maximum | 744 000                      | 669 600   | 66 960   |
| Minimum | 500 000                      | 450 000   | 45 000   |

### **6.6.1. Economic viability of smallholder broiler production**

The viability of the smallholder farmer production unit was assessed to determine whether the farmers interviewed were making a profit. It was estimated that the farmers earned a profit of R4,45 per broiler (Table 6.3).

The broiler enterprises included in the interview were operating at maximum efficiency (producing broilers weekly, with minimum downtime between batches). The returns obtained from the relatively small flock sizes produced by these farmers limited the viability of their enterprise and restricted business expansion. This would impede participation in the formal markets by these farmers. To decrease production costs, these farmers would at times not have scheduled vaccinations programmes done, and they also decreased lighting available to the birds to minimise electricity costs. A gross margin analysis showed that the farmers were making an annual profit (Table 6.3).

The farmer with the largest enterprise who was interviewed for this study showed an improved profit as fixed costs remained constant with a greater return for each increase in variable costs. Thus, it is likely that the greater the size of the broiler enterprise, the greater the economic viability of smallholder enterprises. Once this is recognised by relevant stakeholders, it is likely that emerging farmers could increase broiler production numbers. In this way, these farmers could benefit from economies associated with an increased broiler output which would enhance the financial gains realised by the farmer. In the informal market, broilers were sold at an average price of R25 each (Table 6.3).

**Table 5.3: Financial returns estimated for a 2000 bird enterprise (per individual production cycle)**

| <b>Item</b>                                       | <b>Amount (R)</b> |
|---|-------------------|
| Day old chicks                                    | 9180              |
| Vaccines  | 350               |
| Shavings  | 386               |
| Electricity cost                                  | 200               |
| Feed, (including transport)                       | 19 487            |
| Labour, 8 labourers                               | 4000              |
| <b>Total production costs</b>                     | <b>33 603</b>     |
|   |                   |
| <b>Total broiler production, less mortalities</b> | <b>1 700</b>      |
| Price per bird                                    | 25                |
| <b>Gross income</b>                               | <b>42 500</b>     |
| Less total costs of production                    | 33 603            |
| <b>Gross Margin</b>                               | <b>8 897</b>      |
| <b>Profit per bird</b>                            | <b>4,45</b>       |
| <b>Enterprise profit per annum</b>                | <b>177 940</b>    |

Source: Author's computations from field work (2012)

### **6.7. External determinants of smallholder broiler market participation**

Measures are applied by certain governments to ensure that human, animal, or plant life or health is protected from risks arising from a number of sources. These include the entry or spread of plant or animal-borne pests or diseases, unwanted food additives, contaminants, toxins, or pathogens contaminating foods, beverages, or animal feedstuffs. These all pose significant barriers to South African broiler exports. Statutory measures to control these contaminants are known in the World Trade Organisation as sanitary and phytosanitary (SPS) measures and play an increasing role in determining the flow of trade. The SPS measures present challenges for small-scale enterprises as the farmers lack the resources to identify and address such barriers.

One way in which smallholder farmers could enter the formal markets would be by subcontracting to the large broiler producers. This would enable farmers to increase the capacity of their broiler production. However, smallholder farmers producing broilers reported that statutory requirements by RCL Foods and Astral for sub-contracting farmers

prevented them being eligible to supply birds to these large producers. To meet the requirements, substantial financial investments are needed (partly to meet the SPS requirements of the international market) and are a formidable barrier for the emerging farmers to enter the formal markets. This is because they do not have the financial resources to improve the quality of their broilers to satisfy these requirements. The parent company would provide the necessary inputs for broiler production only once these many infrastructural requirements are in place. The prerequisites are:

- i) The operation must be owner-managed by the farmer;
- ii) The farmer must produce 90 000 to 100 000 birds of acceptable quality per cycle;
- iii) The broiler farm should be isolated, and have suitable access to roads and electric fencing;
- iv) The producer has to have the specified equipment, including a roof, cooling and drinking systems, automatic feeding, PVC curtains, concrete floors, lighting, heating, and storage;
- v) Bio-security is essential and QA measures including HACCP and associated PRPs must be in place; and
- vi) Guarantee and surety. The principal contributes R7 per bird as working capital. The companies do not grant surety to banks.

The buy-out of existing contract growers offers better opportunities with less risk. To be successful, contract growers must be amongst the lowest cost producers of broilers.

### **6.8. Government policy of relevance to smallholder broiler farmers**

The influence of government policies was negligible on the day-to-day running of the smallholder farmers interviewed. This was due to the fact that they sold the broilers informally. Current anti-dumping tariffs put in place by government generally help to minimize imports and protect the domestic broiler meat industry. Whilst this stabilises the prices for frozen poultry meat, it does not affect the live bird sector, as this is a separate market wherein live chickens whose meat is deemed to be fresher and tastier are preferred. Competition at this level is between the smallholder farmers themselves.

The absence of any supportive policies to develop and support the informal broiler meat market was glaring. Smallholder farmers transported their birds live in vehicles and then

attempted to sell their produce at the open markets where there was a complete lack of adequate structures for consumers wishing to purchase the broilers. This mechanism of live broiler supply represents much potential for significant growth as the broiler meat is fresh and is generally preferred in these communities.

## CHAPTER SEVEN

### CONCLUSION

#### 7.1. Introduction

The broiler industry is considered a critical sub-sector in the agricultural industry for economic growth in South Africa. The sub-sector has a vibrant large-scale component and dominates the market with other players who also participate in the peripheral markets. Smallholder broiler producers find it difficult to integrate into formal markets because of the numerous constraints and barriers experienced by the resource-poor farmers. In addition, there is a general reluctance by buyers in formal markets to engage with the numerous smallholder farmers.

The overall purposes of this study were to investigate the extent of smallholder farmer market access and establish reasons for the limited formal access of smallholder farmers in the broiler industry in Gauteng. The study used a holistic approach in looking at the broiler sub-sector. Therefore, it was not restricted to smallholder farmers but included other players, such as supermarkets and poultry associations, who play a crucial role in broiler production and marketing.

Specifically, the objectives of this study were to

- i) Determine the size of the smallholder broiler sub-sector; in terms of the number of farmers involved and the quantities of broilers supplied;
- ii) Determine the extent of market participation for smallholder broiler farmers; including the numbers of birds sold in formal markets;
- iii) Identify farmer-related determinants of market participation including farming experience, education level, economic status, gender and,
- iv) Identify external determinants of smallholder broiler market participation including government policies, barriers to formal market entry, market requirements, transaction costs and required infrastructure.

Data were collected through case studies and key informant interviews, which included retail supermarkets, poultry associations and established broiler commercial farmers. The information extracted from three case studies gave some understanding of the challenges faced by smallholder farmers when marketing their produce.

## **7.2. External determinants to market participation**

Particular requirements of contract producer to enter the vertically integrated broiler market sector were:

- i) A minimum production of 90 000 birds per cycle;
- ii) A substantial amount of land;
- iii) Isolation of the property with electric fencing;
- iv) An advanced lighting, heating, feeding and drinking systems; and
- v) Implementation of statutory biosecurity and sanitary measures.

All of these posed prohibitive infrastructural barriers to formal market entry for the smallholder broiler farmers. As a result, they tend to concentrate and compete only in the informal markets.

The findings of this study are consistent with those of previous studies conducted mainly by the SAPA and the NAMC. All research done to date reinforces the observation that smallholder broiler producers remain on the periphery of broiler marketing in Gauteng, and the possibility that their businesses would expand to overcome the barriers to entering the formal sector is unlikely.

### **7.2.1. Recommendation**

Government should endeavour to establish a public private partnership (PPP) with established businesses in the broiler sub-sector to support the development of smallholder broiler farmers by providing “soft loans” to enable these farmers to become contract producers to the established operators. However, there should be thorough screening of prospective candidates to ensure dedication to the business enterprise to ensure success.

## **7.3. Capacity of the broiler smallholder sector in Gauteng**

This study found that 90% of smallholder broiler production (450 000 birds) in Gauteng is being sold at informal markets and the remaining 10% (50 000 birds) is being sold in the formal markets. This is consistent with the findings of previous studies (SAPA, 2010) which indicated that 80% of broiler meat supply in the formal markets is supplied by the large vertically integrated producers who dominate the market, and the remaining 20% of broiler meat supply originates from medium scale and smallholder broiler producers.

This study further showed that only four percent of total broilers supplied to formal markets in Gauteng were produced by smallholder farmers

It was confirmed that smallholder broiler producers in Gauteng dominated the informal markets. Responsible for this trend were the following:

- i) Lack of compliance with statutory prerequisite specifications regarding broiler quality to supply the formal markets -- these prerequisites do not apply to the informal sector;
- ii) Limited resources for smallholder producers;
- iii) Lack of access to information on business management and expansion, and broiler project management; and
- iv) Limited access to finance.

### **7.3.1. Recommendation**

It is recommended that in addition to promoting formal market participation for smallholder broiler producers, government should also support the informal broiler market to ensure both its expansion and the development of higher standards of service for the customers. Smallholder broiler enterprises are showing a rapid increase in growth and have a loyal customer base for live birds and fresh broiler meat. With more awareness and marketing, this sector of the broiler supply industry could increase its turnover in the future.

Additionally, support should also be provided in the form of increased smallholder farmer access to training on business and broiler management strategies to ensure future business expansion.

### **7.4. Farmer related determinants and the economic viability of broiler enterprises**

This study showed that the economic status of the farmers directly influenced the extent of profits the farmers were generating from their broiler enterprises. It further identified major issues that acted as barriers to entry for the smallholder farmer to compete on an equal platform with the other broiler subsectors. Small-scale farmers were at a disadvantage because the size of their business made the unit cost of production higher than that of the vertically integrated commercial broiler producers.

It was evident that the size of the enterprise and the extent of the returns were directly correlated -- the bigger the enterprise, the larger the profit. Where necessary, resources were limiting and where smallholder farmers had no access to ready financial capital, they were unable to expand their production. Small-scale farmers also avoided the formal



markets because statutory requirements for quality broilers were stringent and costly in the short term. In addition, the three farmers interviewed were unable to produce sufficient numbers of broilers and lacked the management skills to meet the continuous supply of birds required by the supermarket retailers.

#### **7.4.1. Recommendation**

The challenge remains to support the growth of the small-scale farmers such that they become integrated into the formal broiler market in Gauteng. Support for farmers should be in the form of extended business management by targeting business growth, together with access to affordable financing to enhance the expansion of their business enterprises.

It is recommended that future studies conduct a survey by selecting a representative sample size of smallholder farmers in the broiler industry. In this way the relationship between factors such as age, educational qualifications, and gender of farmers could be meaningfully related to broiler production. With only three case studies undertaken, the influence of such factors on the smallholder farmer broiler industry could not be accurately determined in the study reported on here.

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## APPENDICES

### APPENDIX A-Data collection instrument

## Interview guide for the broiler subsector

|                       |  |
|-----------------------|--|
|                       |  |
| Name of Interviewee   |  |
| Date of the interview |  |
| Town                  |  |
| Sex                   |  |
| Education level       |  |

### Part A: Producers

1. When did you start your broiler enterprise?
2. How did you start? To cover financing, location of land.
3. Why did you choose the broiler industry?
4. Where do you source the production inputs required e.g., day old chicks, feed, vaccines?
5. How are these transported to the farm?
6. Are there any constraints in sourcing these inputs e.g. inaccessible suppliers, access to finance?
7. How many labourers, if any, do you employ?
8. Are the labourers trained in disease control?
9. How long, is the production process, duration? At what age do you cull the broilers?
10. What are your products?
11. Where do you sell the products?
12. What is the current price of a broiler chicken/other products?
13. Are there seasonal variations in price?
14. How do you transport the birds to the market?
15. Are there any problems in relation to the selling of the produce?



16. How do you cull the broilers?
17. How many batches of chicken do you produce per year?
18. What is the average size/ batch?
19. Do you have extension support? Veterinary, Ministry of Agriculture?

Please estimate the production costs for the enterprise:

| <b>Inputs</b>             | <b>Quantity</b> | <b>Costs / Unit</b> | <b>Total Cost</b> |
|---------------------------|-----------------|---------------------|-------------------|
| DOC                       |                 |                     |                   |
| Starter feed              |                 |                     |                   |
| Growers mash              |                 |                     |                   |
| Finisher                  |                 |                     |                   |
| Vaccines                  |                 |                     |                   |
| Water costs               |                 |                     |                   |
| Electricity               |                 |                     |                   |
| Transportation,<br>Input  |                 |                     |                   |
| Transportation,<br>Output |                 |                     |                   |
| Labour                    |                 |                     |                   |
| Other                     |                 |                     |                   |

### **Gross Income**

| <b>Price per broiler</b> | <b>Broilers sold/ batch</b> | <b>Total Income</b> |
|--------------------------|-----------------------------|---------------------|
|                          |                             |                     |
|                          |                             |                     |
|                          |                             |                     |

## APPENDIX B

### INTERVIEW GUIDE

1. Where do you source the broiler meat in this supermarket from?
2. Do you buy any broiler meat from emerging/smallholder farmers?
3. If so, what percentage do you buy from emerging farmers and what percentage do you buy from other suppliers.
4. Are there any differences in quality in broiler meat purchased from small and established producers?
5. What are your requirements for a producer to supply broiler meat to the supermarket?
6. What, in your opinion can be done to increase the number of smallholder farmers who can sell in this marketing channel.