

An analysis of constraints facing smallholder
farmers in the Agribusiness value chain:

A case study of
farmers in the Limpopo Province

By

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DECLARATION

I, Joshua Kenneth Baloyi, declare that this dissertation, submitted for the degree M Inst Agrar (Agricultural Economics) at the University of Pretoria, is my own work. It has not been submitted before for any other degree or examination at any other university. All sources used or quoted have been properly indicated and acknowledged by means of complete references.

Signature:

Date:



DEDICATION

I proudly dedicate this work to the Lord God, without whom it would not have been possible to complete this research paper. I have witnessed His faithfulness in providing for my needs every step of the way, and in leading me into experiences far better than I could have hoped for or imagined. Whatever I have learnt, and whatever this endeavour has produced, is by His grace alone.

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ABSTRACT

This study focused on analysing the production and marketing constraints that often prevent smallholder farmers from accessing high-value markets in the agribusiness value chain. Access to markets is an essential requirement for the poor in rural areas to enjoy the benefits of agricultural growth. Limited access to agricultural markets by smallholder farmers in rural areas represents one of the most important challenges confronting policymakers in developing countries. Several studies have indicated how smallholder farmers can be linked to markets, but they have failed to address issues of how to increase the likelihood of smallholder farmers benefiting from high-value markets. Due to the stringent sourcing criteria of formal markets, small-scale farmers are excluded from the agricultural value chains. It may be easy to access the market, but it is very difficult for smallholder farmers to retain that market. This is attributed to the fact that smallholder farmers face various constraints along the value chain such as production and marketing constraints.

The main objective of this study was to identify and analyse the constraints confronting smallholder farmers in the Limpopo Province and to suggest different strategies that can be used to make it easier for smallholder farmers to access high-value markets in the agribusiness value chain. This was achieved through personal interviews in two districts, i.e. the Capricorn and Vhembe districts. Primary data was obtained through structured questionnaires in both districts. These two districts were chosen due to their uniqueness with regard to agricultural potential, with smallholder farmers in both districts being heterogeneous and confronting different constraints in producing and marketing their products.

Producing for the market calls for production resources, including production means such as land, water, on-farm and off-farm infrastructure, labour force, capital, and good management of these resources. Poor access to these resources affects the way in which smallholder farmers can benefit from opportunities in agricultural markets, especially in terms of the volume of products traded and the quality and quantity of those products. Based on the surveys employed for purposes of this study, the participation of smallholder farmers in high-value markets is constrained as a result of poor access to comprehensive agricultural support services. There are relatively few direct linkages between smallholder farmers and fresh produce markets, supermarkets, and agro-processors. The majority of sales by farmers are at either the local market or the farm gate level. Few farmers have access to basic production equipment and infrastructure.

A range of impediments to participation in high-value markets were identified. These include lack of access to sufficient and productive land for expansion, sufficient water, modern irrigation systems, mechanisation, transport logistics, and market information. These constraints constitute the greatest barrier for smallholder farmers when it comes to accessing high-value markets, and overcoming these constraints is critical if smallholder farmers are to access lucrative markets. There is relatively low participation among farmers in collective action, more especially at production and marketing levels.

The study found that smallholder farmers in the Vhembe district have a comparative advantage in terms of vegetable production compared to those in the Capricorn district. Smallholder farmers in the Vhembe district are better linked to agro-processors, fresh-produce markets and supermarkets as compared to farmers in the Capricorn district – even though this is the case for only a few individual farmers. The study also found that individual producers have greater access to on-farm infrastructure and also perform better and have closer links to formal markets compared to projects owned by groups of households.

The results of the study suggest that smallholder farmers who are currently not participating in high-value markets could improve their participation if they are given access to comprehensive agricultural support services. More attention must be given to supporting smallholder farmers in both districts to ensure that they engage in commercial production and participate in high-value markets on a sustainable basis. This could only happen if their constraints along the value chain are addressed. The major challenge confronting policymakers is to create an enabling environment for smallholder farmers and empower them to produce high volumes of good-quality products on a consistent and sustainable basis.

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ABBREVIATIONS AND ACRONYMS

AAFC	Alberta Agriculture and Food Council
ADB	Asian Development Bank
AGRIBEE	Agricultural Black Economic Empowerment
APOL	Agro-Processors of Limpopo
ARC	Agricultural Research Council
CASP	Comprehensive Agricultural Support Programme
CIASP	Crop Input Access Support Policy
DBSA	Development Bank of Southern Africa
DC	Distribution Centre
FAO	Food and Agriculture Organization
FHI	Fresh Harvest Investment
FSP	Farmer Support Programme
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GGP	Gauteng Gross Product
JFPM	Johannesburg Fresh Produce Market
JIT	Just in Time
LADA	Limpopo Agribusiness Development Academy
LADEP	Limpopo Agricultural Development Programme
LDA	Limpopo Department of Agriculture
LRAD	Land Redistribution for Agricultural Development
LTGA	Limpopo Tomato Growers' Association
MAC	Mokgongoa Agricultural Consulting
MAFISA	Micro-Agricultural Finance Institute of South Africa
MEC	Member of the Executive Council
MERECAS	Mechanisation Revolving Credit Access Scheme
NAMC	National Agricultural Marketing Council
NDA	National Department of Agriculture
NFPM	National Fresh Produce Market
PPP	Public Private Partnership
PSA	Potatoes South Africa



RESIS	Revitalisation of Smallholder Irrigation Scheme
SMEs	Small and Medium Enterprises
SPS	Sanitary and Phytosanitary
TIL	Trade Investment Limpopo
TPO	Tomato Producers' Organization

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

The Limpopo Province boasts abundant agricultural resources and is one of the country's prime agricultural regions noted for the production of livestock, fruits and vegetables, cereals and tea (LDA, 2008). Agriculture is a critical economic sector in the province in terms of its contribution to the economy and the number of employment opportunities it creates within local communities. Although agriculture's contribution to the provincial gross domestic product (GDP) has decreased over the past five years, agriculture remains highly labour intensive and is a source of economic relief from poverty for the majority of people in the rural areas of the province.

Commercial farmers in the province use the most advanced production technology and occupy approximately 70 percent of the total land area. These commercial farmers operate large farms, which are well organised and situated on prime land. It has been estimated that there are 5 000 commercial farming units and 303 000 smallholder farmers in the Limpopo Province (Statistics South Africa, 2004). The smallholder farms are located mostly in the former homeland areas of South Africa. Farming under the smallholder system is characterised by low levels of production technology and small-sized farm holding of approximately 1.5 hectares per farmer with production primarily for subsistence purposes, leaving little marketable surplus (LDA, 2008).

Access to markets is an essential requirement for the poor in rural areas if they are to enjoy the benefits of agricultural growth. The participation of smallholder farmers in high-value markets is unsatisfactory. It may be easy to access the market, but retaining one's position in the market is more difficult. In this respect, investment must be dynamic (Reardon, 2005:28).

The most crucial question is how to support smallholder farmers so that they can participate consistently in lucrative markets. In order to improve market access for the majority of smallholder farmers, the Limpopo Department of Agriculture (LDA) established the Directorate for Agribusiness and Agri-planning, which consists of value chain managers for the main commodity groups, namely grains, livestock, industrial crops, horticulture, deciduous fruit, and subtropical fruit. At the district level, there are generalist value chain managers who work in collaboration with municipal value chain deputy managers who offer economic extension to farmers from the point of production until the products are in the hands of consumers. In addition, the LDA recently established an Agribusiness Development Academy to provide vocational short courses, e.g. agribusiness management (business planning, bookkeeping) and value-added processing for farmers and entrepreneurs, free of charge (Sendall, 2007:31).

A major challenge confronting value chain economists in the LDA is how to increase the access of smallholder farmers to high-value markets in the agribusiness value chain, and how to increase such farmers' participation in the process of adding value to their products. Ortmann (2005:471), who once raised the question of whether small-scale farmers can become a successful link in the value chain, contended that participation in growing markets for high-value products will most likely require significant vertical co-operation by small-scale farmers with processing and marketing firms due mainly to lacking or dysfunctional markets for some inputs and products, as well as economies of scale.

International experience has also shown that if smallholder farmers need to partake in agribusiness value chains and access high-value markets, they should be able to produce high-value crops that are demand-driven. In producing and marketing high value-added products, transaction costs tend to be high particularly for smallholder farmers in rural areas. Therefore, the other school of thought is that high transaction costs in the marketing of high value-added products tend to exclude small-scale farmers from participating in high-value markets. The major challenge confronting the LDA is the creation of an enabling environment for smallholder farmers to successfully participate in the agribusiness value chain.

1.2 OBJECTIVES OF THE STUDY

Before suggesting possible strategies to support smallholder farmers, there is a need to identify the specific constraints with which they are confronted. This study is crucial in pinpointing the inefficiencies and weaknesses being experienced by smallholder farmers producing vegetables (tomatoes and potatoes) in the Limpopo Province, and suggests possible policy recommendations to smallholder farmers based on their level of participation in the vegetable supply chain. Emphasis is placed on the best way to support smallholder farmers in their efforts to access high-value markets in the agricultural value chain.

The main objective of this study was to come up with different strategies that could be used to enable smallholder farmers to access high-value markets in the vegetable supply chain.

The specific objectives were:

- ❖ To identify and analyse constraints confronting smallholder farmers in the Limpopo Province when it comes to producing and marketing vegetables, particularly tomatoes and potatoes;
- ❖ To determine the characteristics and factors that influence the accessibility of high-value markets in the agricultural supply chain;
- ❖ To examine the participation of smallholder farmers in agricultural markets, both local and national; and
- ❖ To recommend possible strategies that policymakers can use to assist small-scale producers in their efforts to access high-value markets in the agribusiness value chain.

1.3 PROBLEM STATEMENT

The contribution of smallholder agriculture to economic development can be realised if smallholder farmers are linked to high-value markets in the agricultural supply chain so that they can benefit from these lucrative markets. In recent times, there has been high demand for high-value agricultural products, along with more stringent food safety and quality requirements and the emergence of supply-chain integration. All these changes forebode the potential exclusion of small-scale producers from the growing markets. The inability of smallholder farmers to engage in lucrative markets is great cause for concern. Bienabe, Coronel, Le Coq and Liagre (2004:6) contended that, “Agriculture is becoming increasingly integrated and smallholder farmers are often disadvantaged, and actions must be taken to help them draw profit from their integration into markets.”

Several studies have indicated how smallholder farmers can be linked to markets, but they have failed to address the issue of how smallholder farmers can be empowered to benefit from high-value markets. It is easy to link farmers to markets, but it is difficult for a smallholder farmer to satisfy the market, achieve consistency, and remain sustainable. Before linking farmers to markets, there is a need to ensure that farmers are consistent in marketing their produce. The essence of the problem lies in identifying those factors that are currently preventing smallholder farmers from benefiting from reliable markets and determining combinations of strategies that can assist smallholder farmers to compete consistently in the market arena. To ensure that farmers are consistent along the chain, several issues need to be analysed and addressed, including production factors, on-farm and off-farm infrastructure, management capacities, ameliorating transaction costs, financial assistance, advisory support, research, and technology adoption.

1.4 RESEARCH QUESTIONS AND RESEARCH GAPS

The main research question is how smallholder farmers’ access to high-value markets in the agribusiness value chain can be improved. In analysing and addressing the contributing issues mentioned above, different strategies need to be explored based on local and national markets. Key areas for research are clustered around several questions, namely:

- What are the main determinants of smallholder farmers' exclusion from participation in lucrative markets?
- How can new institutional arrangements be developed to the extent that smallholder farmers can improve and maintain their access to high-value markets?
- Since studies indicate that smallholder farmers are not consistent in terms of supplying products to the formal markets, what could be done to ensure that this actually happens?
- How can smallholder farmers be supported in their efforts to benefit from their linkages to different markets? How then could small-scale farmers improve their competitiveness by becoming an important link in the agricultural supply chain?
- How can transaction costs be minimised to enable smallholder farmers to participate successfully in the agricultural supply chain?
- How does the agricultural policy environment affect smallholder farmers? Is the agricultural policy environment sufficiently conducive to enable smallholder farmers participate in lucrative markets?
- What could be done to ensure that smallholder farmers engage in high-value markets?

1.5 PROVINCIAL OUTLOOK

The Limpopo Province is comprised of five districts, namely: Capricorn, Mopani, Sekhukhune, Vhembe, and Waterberg (see Figure 1.1). The general consensus is that the Mopani and Vhembe districts are considered to be the major producers of fruits and vegetables, while the Capricorn, Sekhukhune and Waterberg districts are dominated with livestock, with a few vegetable and fruit enterprises. The participation of smallholder farmers in commercial agriculture in the province remains unsatisfactory.

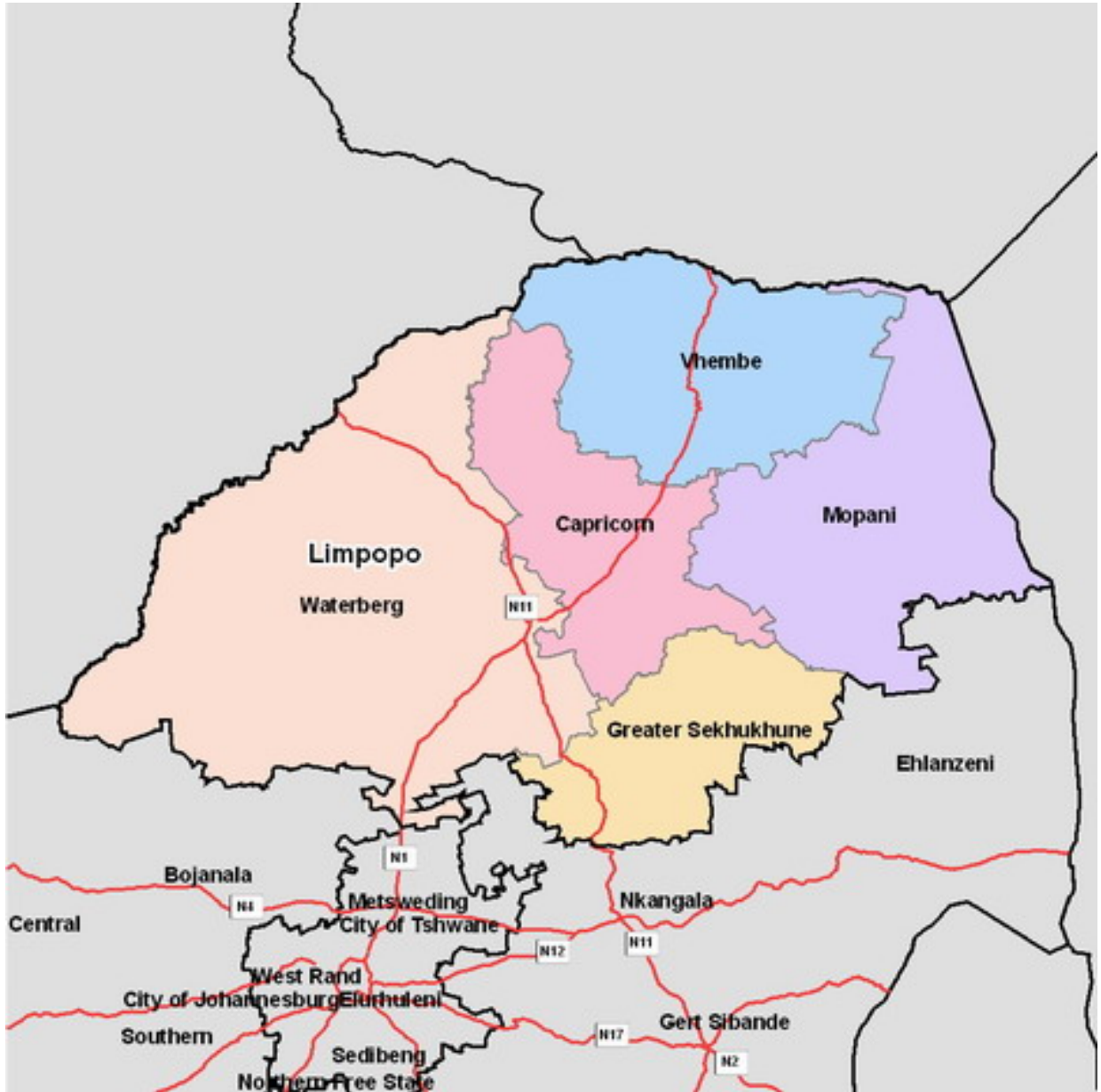


Figure 1.1: Map showing all districts of Limpopo Province

The above map shows that the Capricorn district is located in the central part of the province, bordered by the Waterberg district to the west, Vhembe to the north, Mopani to the east, and Sekhukhune to the south-east.

1.6 RESEARCH PROCESS AND METHODOLOGY

A case study method was used as a tool to evaluate whether small-scale farmers have access to formal markets in the agribusiness value chain. One hundred and twenty (120) farmers were interviewed from two districts in Limpopo province, namely; Capricorn and Vhembe districts (60 households per district). It was determined that the well-established farmers have access to markets while the poorly resourced farmers struggle to produce and market their produce. In both the Capricorn and Vhembe districts, different commodities are produced by commercial and emerging farmers. The study focused on the production and marketing constraints facing smallholder farmers producing tomatoes and potatoes.

1.6.1 Choice of districts

This study focused on the Capricorn and Vhembe districts of the province. These two districts were chosen as the areas of study because they differ in terms of agricultural potential, and the smallholder farmers in those districts face various constraints that exclude them from participating in lucrative markets. In both districts, there are different categories of small-scale farmers – those producing for subsistence purposes and those producing for commercial purposes – who possess heterogeneous characteristics.

1.6.2 Choice of commodities

International experience has shown that an important strategy for increasing the incomes of small-scale farmers in developing countries is to help them diversify from low-value staple food commodities into higher value commodities, such as livestock, dairy products, fish, fruits, vegetables, and spices. The demand for these products in both developed and developing countries is rising rapidly as incomes increase and consumers adopt more diverse diets (NDA, 2009). It is a well-known fact, needing no further debate, that vegetables are an ideal cash crop for both commercial and smallholder farmers in developing and developed countries. Tomatoes and potatoes were selected as the two commodities to be studied for purposes of this dissertation due to the fact that they are high-value crops and are commonly produced in the Limpopo Province and South Africa as a whole. Over and above their status as important crops in the context of the South

African agricultural economy, the selected commodities were also chosen on the basis of their potential to generate a high income, particularly when prices are at a peak.

These high-value commodities can play a significant role in changing the lives of rural farmers in the province, particularly when the production and marketing challenges confronting smallholder farmers along the value chain are addressed. Even households that may not benefit directly can reap indirect benefits through increased demand for hired labour in the value chain.

The intention of selecting these high-value commodities for this study was to help policymakers be better informed about the barriers preventing small-scale farmers in the Limpopo Province from participating to a greater extent in high-value markets, as well as the policy options available to reduce these barriers. In view of the prevailing favourable climate for the production of a variety of high-value crops by smallholder producers in the province, coupled with growing awareness that some of these high-value crops could solve the problem of food security and poverty reduction among rural people. It has become increasingly evident that considerable changes would be required in their farming operations if the economic benefits of increased production are to be fully realised. These changes entail producing good-quality, high-value crops on a large scale and accessing high-value markets. However, this will only happen if smallholder farmers have access to comprehensive agri-support services.

1.6.3 Data collection methods

The study applied quantitative methods of data collection by visiting small-scale farmers producing the selected commodities to investigate the constraints facing them in the production and marketing of their vegetables. The LDA's database of smallholder farmers was used to access the smallholder farmers producing the particular vegetables in the selected districts. Extension officers from the LDA were used as the initial contact people when visiting the smallholder farmers who were interviewed in the Capricorn and Vhembe districts of the Limpopo Province. A total of 120 farmers (60 households per district) were interviewed.

The Capricorn district consists of five municipalities, while the Vhembe district comprises four municipalities. Farmers were randomly selected from both districts and

municipalities. Primary data was obtained through structured questionnaires and administered through personal interviews. In order to ensure representation in each municipality, a maximum of 12 farmers from each municipality were interviewed in the Capricorn district, while a maximum of 15 farmers from each municipality in the Vhembe district were interviewed. In some cases in both districts, vegetable projects were owned by groups of farmers, and in such scenarios one farmer per project was interviewed to provide the overall information on the project. From the total number of respondents (120), 52 respondents represented individual enterprises while 68 represented projects owned by groups of households. Visits were also made to the Goseame Fresh Produce Market, the Paledi Spar, the Polokwane Fruit & Veg City, the Turfloop Shoprite, and the Willards potato agro-processing company in the Gauteng Province to gather information on marketing channels and their specifications for suppliers.

1.7 TOMATO PRODUCTION IN THE LIMPOPO PROVINCE

Fresh tomatoes are planted mainly in the vicinity of the town of Musina in the far north and in the vicinity of Mooketsi in the region known as the Northern Lowveld. The Northern Lowveld is the major production area representing 75 percent of total plantings in the Limpopo Province. Growth in the area under tomato production in the province is due to expansion in tomato plantings in the far north (ARC, 2007). The areas planted to fresh tomatoes in the Limpopo Province and in South Africa in general are shown in Table 1.1. The Limpopo Province produces more than 60 percent of tomatoes in the country. Most of the production comes from commercial farmers, while the participation of smallholder farmer is limited.

Table 1.1: Area planted to fresh tomatoes (ha), Limpopo Province and RSA (1997-2005)

Year/Region	1997	1998	1999	2000	2001	2002	2003	2004	2005
Limpopo	3050	3050	3150	3250	3250	3250	3250	3590	3590
Far North	550	550	650	550	550	550	550	890	890
Northern Lowveld	2 500	2 500	2 500	2 700	2 700	2 700	2 700	2 700	2 700
Rest of SA	2 375	2 395	2 165	2 265	2 160	2 410	2 410	2 815	3 090
TOTAL SA	5 425	5 445	5 315	5 515	5 410	5 660	5 660	6 405	6 680

Source ARC, (2007)

1.8 POTATO PRODUCTION IN THE LIMPOPO PROVINCE

The main production region for potatoes in the Limpopo province is Dendron. Groundwater is mainly used for irrigation purposes. This water source is currently being exploited optimally, and further expansion in potato production is therefore limited. Farmers are currently considering expanding to new production areas (ARC, 2007). National plantings increased initially until 1991 after which a downward trend was perceived. On the other hand, potato plantings in the Limpopo Province are showing a continuous upward trend. In 1975, potato plantings in the Limpopo Province represented seven percent of national plantings, increasing gradually to 17 percent in 2006. Over the past 10 years, potato production has increased on average by 1.7 percent per annum in the Limpopo Province and by one percent per annum in South Africa as a whole. Nearly 74 percent of potatoes are marketed directly to fresh produce markets while 17 percent are sold to agro-processors (see figure 1.2). Direct fresh sales include sales to hawkers, direct exports and marketing in local markets. Potato growers may produce certified seed or retain a certain quantity to be used as seed in the next year. About two percent of seed is kept as seed for replanting (ARC, 2007).

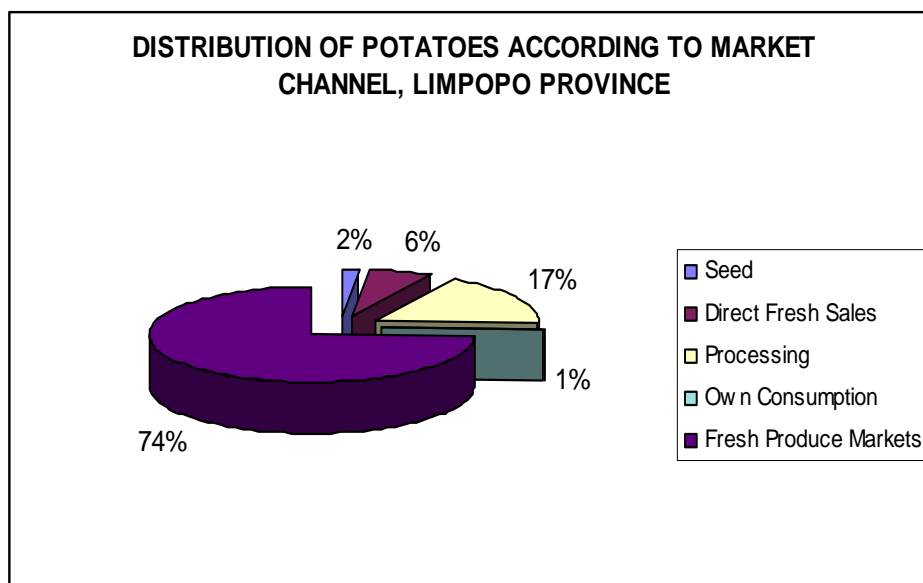


Figure 1.2: Distribution of potatoes according to market channel in the Limpopo Province

Source: ARC (2007)

1.9 JUSTIFICATION OF THE STUDY

The LDA has adopted four main approaches to delivering its mandate: the commodity-based approach, the value chain approach, the project-based approach, and the municipality-focused approach. The aim is to promote the mainstreaming of smallholder farmers in the Limpopo Province so that they can take part in all levels of agricultural activity and sizes of enterprises in the entire agricultural value chain. The intention is to focus on smallholder farmers and link them with potential agricultural markets in the agribusiness value chain, based on the commodity approach. In light of the above-mentioned attempts by the LDA to revive the agricultural sector and turn it into a highly competitive sector in the country, this study aimed to pinpoint some of the constraints facing vegetable-producing smallholder farmers. The environment in which smallholder farmers operate must be conducive to their participation in high-value markets. International experience has shown that too little has been done to support smallholder farmers and that the services that should be available have not been fully accessible. These arguments necessitated this study's attempts to find solutions to the constraints facing smallholder farmers and suggestions for possible strategies that can help to smallholder farmers to access high-value markets.

Many scholars have contended that research into the informal economy should consider value chain dynamics in order to understand the complex linkages between traditional markets and modern markets. Several studies have also shown that compared to farmers participating in traditional markets, farmers participating in high-value or modern markets show higher earnings per hectare or per kilogram marketed (Reardon, Barrett, Berdegue & Swinnen, 2008:5). In accessing high-value markets, smallholder farmers need to be integrated into the value chain and be supported along the chain so that they become competent. This study will be imperative when it comes to identifying the constraints confronting smallholder farmers in linking up with high-value markets. The findings and recommendations of this study will be useful for policymakers in the LDA and other stakeholders in their attempts to promote smallholder farmers to high-value markets in the agribusiness value chain.

1.10 OUTLINE OF THE STUDY

The remainder of this study is organised as follows: Chapter two focuses on the literature review, while chapter three reviews the general constraints facing smallholder farmers and also pays attention to the farmer support programme launched by the Development Bank of Southern Africa (DBSA) in the late 1980s in an attempt to address some of the challenges facing smallholder agriculture at that time. Chapter four presents a descriptive profile of farmers in both districts under investigation. The findings on the production and marketing constraints facing smallholder farmers are then outlined in chapter five. Chapter six articulates the marketing constraints and issues in the agricultural value chain in relation to smallholder agriculture. The Makuleke case study is presented in this chapter, and greater emphasis is placed on the ways in which smallholder farmers can be promoted along the value chain. The final chapter (chapter seven) concludes with a summary and recommendations.

CHAPTER 2

LITERATURE REVIEW ON AGRICULTURAL CHANGE

2.1 INTRODUCTION

This chapter reviews the current changes in agricultural development and their implications for smallholder farmers. The main issues reviewed with reference to smallholder farmers include the new paradigm shift of agribusiness development, agro-food markets, market reforms, and the agricultural value chain approach.

2.2 NEW PARADIGM OF AGRIBUSINESS DEVELOPMENT

The marketing environment is continuously exposed to a continuum and latitude of changes, resulting in uncertainty, barriers and opportunities. Consequently, the marketing environment must be monitored constantly in order to minimise risks, reorganise, and capitalise on opportunities. Globalisation and technology in particular are rapidly changing trends in consumer behaviour and impact heavily on the way in which agribusinesses conduct their business. The changes are also highly dynamic, changing the nature of both farming and business (Esterhuizen, 2006:3) In many developed countries, agricultural production is changing from an industry dominated by family-based, small-scale farms or firms to one of larger firms that are more tightly aligned across the production and distribution value chain (Boehlje, 2000).

Although the process of globalisation and industrialisation has created opportunities for smallholder farmers to produce a wider range of high-value crops, there is still a possibility that the process of agro-industrialisation, globalisation, and market integration will exclude these farmers from high-value markets. The new lifestyles of consumers in the wealthy countries of the north, along with shifting demographics, and a growing appreciation for the link between diet and health, have contributed to different eating patterns and influenced the foods purchased by consumers in these countries. Concerns about food safety and the recent food scares have also heavily influenced consumer behaviour. Consumers now demand tailored foods and, to ensure that they meet their specifications, food companies want more specific farm products.

In addition, food safety is also a concern, especially regarding fresh food products, thus bringing about increased scrutiny and regulation in developed countries. As a result, processors and marketers have avoided traditional spot markets and have engaged in more direct market channels such as market and production contracts, full ownership, and vertical integration (Kirsten & Sartorius, 2002:4).

The issue of market access by smallholder farmers cannot be addressed completely without taking a holistic perspective that also takes into account the global trends in economic transformation that have a direct bearing on the current smallholder market access situation. The forces of globalisation and industrialisation in agriculture have prompted new ways of organising the agro-food sector. Vertical co-ordination of food supply chains has attracted a great deal of attention. The changes in food and agricultural markets have influenced the need for higher levels of managed co-ordination. This has resulted in the introduction of different forms of vertical integration and alliances, which have become a dominant feature of agricultural supply chains (Kirsten & Sartorius, 2002:1). Reardon and Barrett (2000) revealed how these changes have caused small firms and farms to go out of business under the new competitive pressures. The new competitive environment leads to industrial concentration, with practices that result in the exclusion of domestic firms and small farmers from the benefits and rewards of the high-value markets.

International experience has shown changes in global trends, implying new approaches and changes of focus by smallholder farmers. Many scholars (Boehlje, 2000; Drabentstott, 1995; Sofranko, Frerichs, Samy & Swanson, 2000) have argued that the most dramatic changes in agriculture are taking place in terms of changes in the fundamental business proposition and the ways of doing business:

- From producing for self-sufficiency to producing in a market-oriented way;
- From operating individually to operating in co-operatives;
- From staple crops to high-value crops and value-adding;
- From spot-market farming to contract farming;
- From traditional chains to modern value chains;
- From a focus on production output to a focus on commercialisation;
- From marketing to low-profit markets to marketing to high-value markets;

- From supply-driven to demand-driven production (consumer satisfaction);
- From survivalism to entrepreneurship; and
- From a focus on conventional farming only to organic farming as well.

Hoggart and Paniagua (2001:50) provided a sound critique of agricultural change. They concluded that the empirical evidence cautions against readily accepting that current changes are as profound as the literature suggests, and that the pace of most agricultural change is slower than one would assume from the literature. They contended that there is little that is new about the current debates on agricultural change; that farmers have been buffeted by external forces for decades, that rural economies have long been driven by the demands (e.g. consumption) of non-markets, and that pressure on farmers to change production practices to meet the requirements of non-populations has long been evident. Nevertheless, small-scale farmers find it difficult to make the transition to a more commercial food system, because they struggle to meet the private quality and safety standards set by food processors, large retailers, wholesale buyers and exporters, while at the same time being constrained by the limited support services provided by governments due to policy reforms, market liberalisation, and fiscal and governance problems (Bienabe *et al.*, 2004).

2.3 AGRO-FOOD MARKETS AND SMALLHOLDER FARMERS

With the increasing commercialisation of agriculture and food systems worldwide, the food industry is increasingly dominated by large agribusiness firms whilst the influence of farmers is declining (Reardon & Berdegué, 2002). International experience has shown that smallholder farmers produce low-value commodities, which face declining real prices and increasing competition from medium- to large-scale producers, and they are excluded from high-value markets. As mentioned above, small-scale farmers find it difficult to make the transition to a more commercial food system because they struggle to meet the private standards set by food processors, etc. and are also constrained by limited government support (Bienabe *et al.*, 2004). Experience with contract farming has shown that in both developed and developing countries, agribusiness integrators prefer to deal with commercial farmers in order to reduce transaction costs and also due to the need for greater consistency of quality and supply (Key & Runsten, 1999).

However, Louw, Chikazunga, Jordan and Bienabe (2007) discovered that many commercial farmers are not interested in contracts or in supplying to supermarkets, as they are of the opinion that their ‘profits are squeezed’ and they cannot afford the additional capital outlays to comply with the stringent quality standards. Consequently this may offer smallholder farmers a major opportunity to engage in contract farming if they are supported along the value chain.

According to Louw *et al.* (2007) the trend in the evolution of procurement systems towards large central procuring systems receiving fresh produce from a limited number of preferred suppliers is creating barriers for small-scale producers that do not have growers’ programme contracts with retailers. For smallholder farmers to supply supermarkets or wholesalers they need a certain size of production, high-quality products, a certain size and type of product, and consistency in quality and supply – requirements they find difficult to meet consistently. Smallholder farmers can only have market power if they form co-operatives, which should be established with the help of the government. Groups have the potential to secure better terms of trade such as better sourcing prices, lower transaction costs, and greater access to training and other services.

The expansion of agro-processors, fresh produce markets and supermarkets is posing a major challenge to smallholder farmers in their efforts to position themselves as business-driven competitors. The buying practices of supermarkets and large processors, such as quality and safety standards, packaging and volumes, seriously challenge small producers, who are threatened with expulsion from the agricultural supply chain if they cannot take part in this new type of market. The chains thus require assurances from suppliers that all safety and health standards are being met and surpassed, and small-scale farmers must not be excluded from complying with these standards if they are to compete successfully in the agricultural value chain.

Farmers are now faced with new challenges that include the consistent supply of products of consistently high quality, knowledge of acceptable agricultural practices, capacity to comply with market and regulatory requirements, new issues of conformity assessment, and traceability. This setup poses major challenges for producers, more especially smallholder farmers. As a result, smallholder farmers are still excluded from participating

fully in the agricultural supply chain and are not linked to high-value markets. According to Louw, Vermeulen and Madevu (2006), dominant supermarkets and processors have tended to favour suppliers who can ensure consistent volumes and quality, and they have thus engaged in long-term production arrangements (informal contracts) with such suppliers. These criteria have tended to favour the more capitalised commercial producers and processors over the emerging sector (Louw *et al.*, 2006:2).

The participation of smallholder farmers in high-value markets is constrained by the many challenges they must face. A range of impediments to market participation has been identified, including lack of access to finance, on-farm infrastructure, market information and training. The situation is worsened by the fact that farmers are located far away from the markets and have poor access to infrastructure. Kirsten (1994) and Van Rooyen, Vink and Christodoulou (1987) emphasised the need for structural reform if the participation of black farmers in the commercial agricultural sector is to be enhanced.

2.4 MARKET REFORMS AND SMALLHOLDER FARMERS

The trend of market-oriented reforms following multilateral trade liberalisation and especially structural adjustment programmes in developing countries has led to the increased integration of world markets. Agriculture is becoming increasingly integrated and smallholder farmers are often disadvantaged, and therefore action must be taken to help them draw profit from their integration into the markets (Bienabe *et al.*, 2004:6). There is no doubt that agriculture is undergoing significant changes, and each partner in the agricultural supply chain has to be competitive to ensure profitable returns for all. Similar to the household sector, fresh produce markets and agro-food processing industries have a preference for certain cultivars and quality standards depending on their needs.

It is now more than a decade since South African agricultural marketing policy has moved from a fully-regulated marketing environment towards an open and transparent system where market forces determine price levels. The question that obviously arises is whether smallholder farmers are able to compete in this free market environment. Vink and Kirsten (2000) contended that this market liberalisation has ensured a leaner and stronger

agricultural industry, with some farmers and agribusinesses able to play in a globally competitive environment. On the other hand, Magingxa and Kamara (2003) argued that market liberalisation has widened the gap between smallholder and commercial agriculture. Small-scale farmers are mostly ill-equipped to respond to the changing market conditions (Doyer, 2002).

Vink and Kirsten (2000) found ample empirical evidence that the deregulation of agricultural marketing in South Africa has brought about net welfare gains for commercial agriculture and therefore for the entire nation. Food prices have declined, investment in agriculture has increased, higher production per hectare has been achieved, and farmers are producing higher-value crops. However, they found that this does not necessarily imply that smallholders have enjoyed these gains because of a number of constraints that inhibit smallholder farmers' access to agricultural markets in South Africa. Such constraints usually include infrastructure, market access, credit, organisational structures, suitability of technology, and managerial capacity of the farmers.

2.5 AGRICULTURAL VALUE CHAIN APPROACH AND SMALLHOLDER FARMERS

The concept of agricultural value chains has attracted many scholars in the marketing environment. For smallholder farmers to be integrated along the value chain, they must be able to comply with market requirements such as economies of scale, good quality, and consistency. Transport logistics and the cold chain are necessities for smallholder farmers if they are to participate in the agribusiness value chain. The agricultural value chain is a vertical alliance of enterprises collaborating to secure a more rewarding position in the market. The term 'vertical alliance' means that agribusiness is connected from the production stage, through the processing stage to the marketing stage, until the products are in the hands of the consumers. Producers, processors and marketers become interdependent in the chain and work together to discuss challenges and share information (AAFC, 2004). For commercial stakeholders, the main advantages of being involved in an effective value chain are the ability to reduce the costs of doing business, increase revenues, increase bargaining power, and improve access to technology, information and capital, and by doing so, innovate production and marketing processes in order to achieve a higher value and provide a higher quality of product to consumers (ADB, 2005).

The value chain approach can help smallholder farmers to access secure markets and enter into formal market contracts that can be used to access credit; to share information among partners, thus helping poor farmers to access information better than in spot markets; to consolidate production and minimise transaction costs; to improve their bargaining power; to add value to the products; and to access high-value markets. Many scholars have emphasised that if a value chain approach is not adopted, especially in developing countries, the ‘invisible hand’ type of co-ordination (such as opportunistic behaviour, self-interest, short-term relationships, limited information sharing) will predominate in traditional spot markets.

According to Humphrey and Schmitz (2002) smallholder producers need to access lead firms in the value chain. They stated that research in the horticultural industry in the United Kingdom and Africa suggests that smallholder growers are excluded from the value chains, with the main reason appearing not to be the efficiency advantage of large producers, but rather the lead firms’ sourcing strategies, which are influenced by consumers’ expectations, the safety and environmental requirements of governments and non-governmental organisations, as well as labour standards.

Smallholder producers who gain access to supply chains find themselves in a steep learning curve, because the lead firms tend to be too demanding in terms of cost reduction, raised quality standards, and increased delivery speed. However, these firms do transmit best practices and provide expert advice. Consequently, highly governed chains are normally characterised by such challenges for smallholders (Humphrey & Schmitz, 2002). Hendriks and Lyne (2003) contended that for smallholder farmers to participate successfully in the value chain, they should pool their small individual surpluses and market them collectively. They emphasised that smallholder farmers must co-ordinate horizontally in order to link vertically with intermediaries in preferred supply chains.

According to Bienabe and Vermeulen (2007), there are opportunities for the inclusion of small-scale farmers in formal retail supply chains, including:

Strategic partnerships or mentorship programmes with established farmers so that the small farmers can increase their marketing volumes and have access to established production and marketing infrastructure.

Collective action through either producer organisations or marketing co-operatives, which can also provide alternative inclusion pathways for smallholder farmers.

Dealing with franchise stores, which can also be a viable inclusion option for smallholder farmers, since these stores have more flexible procurement options and, in many cases, less stringent food quality and safety requirements – especially in the case of Spar and Pick 'n Pay.

According to Shepherd (2007:15) there is considerable scope for adding value to agricultural production. In international markets, for example, the growing demand for “convenience” foods has created a market for pre-cut salads and fruits. Shepherd (2007:15) argued that, “NGOs and others sometimes approach agro-processing from a supply-led rather than market-led perspective. That is, they decide to promote processing because of an abundance of raw material rather than because of a clearly identified market for the processed products. A further error is to induce farmers to become agro-processing entrepreneurs. Lacking capital, education and management skills, it is almost impossible for small farmers to successfully manage such ventures.” Smallholder farmers often lack the experience to function in modern markets and supply chains.

Many developing countries have relatively few or even no sizeable agro-processors. While those companies that do exist may presently have surplus capacity, that capacity – and thus their ability to absorb additional production – is usually limited. The promotion of small and medium enterprises (SMEs) is seen by governments and donors as one way to encourage competition and increase value-adding, but this may be constrained by a variety of factors, such as the lack of a risk-taking culture, lack of entrepreneurial skills, credit constraints, the high cost of imported processing equipment and packaging materials, poor infrastructure and low demand (Shepherd, 2007:15).

2.6 CONCLUSION

Many scholars have emphasised how the reduction of public support for the agricultural sector and the liberalisation of the agricultural markets have directly affected smallholder farmers. At the same time, new and rapid trends have appeared in the agricultural markets, some coming directly from the policy reform process and others resulting progressively from urbanisation, evolution of cultural patterns, and technological changes. In the poor areas of developing countries, most communities and service providers face serious challenges in investing in new marketing interventions, particularly in the commercialisation of smallholder farmers.

Agriculture is increasingly becoming a sophisticated sector, especially for smallholders who do not have access to comprehensive agricultural support services. The market requirements set by formal markets are being forced upon even larger numbers of producers, including small-scale farmers. Agriculture is no longer viewed just as a matter of production, but as a holistic process ranging from technology development to solidifying linkages with markets (Norton, 2004). This new emphasis is increasingly accompanied by the need for decentralisation of government services to smallholder farmers in order to make them competent. The rapidly changing market requires a substantial shift in the current paradigm to accommodate consumer focus, supply chain relationships, and public-private sector partnerships.

A policy initiative to stimulate the paradigm change is required. This will lead to the redesign of support systems and the development of an understanding of stakeholders, including smallholder farmers, in the agricultural value chain. However, general constraints facing smallholder farmers in developing countries should be emphasised and acknowledged prior to the implementation of policies or programmes with the objective of promoting smallholder farmers. These constraints will be discussed in detail in the next chapter.

CHAPTER 3

CONSTRAINTS FACING SMALLHOLDER FARMERS

3.1 INTRODUCTION

Smallholder farmers face a number of constraints, which increase risk and uncertainty and act as disincentives for increased production, consequently preventing them from accessing agricultural markets. This chapter discusses some general constraints facing smallholder farmers. According to Van Rooyen *et al.* (1987) smallholder farmers in traditional agriculture will generally be capable of making rational economic decisions if the technical and economic constraints they face are removed. In addressing the constraints to smallholder agriculture, comprehensive agricultural support services become a necessity. The chapter also pays attention to the Farmer Support Programme (FSP) of the late 1980s and how it successfully addressed some of the challenges confronting smallholder farmers in the former homelands of South Africa at the time. The chapter also reviews the recent Comprehensive Agricultural Support Programme (CASP) in relation to the constraints facing smallholder farmers in South Africa.

3.2 INTERNAL AND EXTERNAL CONSTRAINTS FACING SMALLHOLDER FARMERS

Generally, smallholder farmers in developing countries face major challenges such as poor access to land; lack of on-farm and off-farm infrastructure; lack of access to finance for production inputs; lack of access to mechanisation, transport logistics, extension and research support services; and limited access to high-value markets. According to the Development Bank of Southern Africa (DBSA, 1986) common constraints facing smallholder farmers in less-developed areas may be classified into two groups, namely external and internal constraints. External constraints emanate from the broader agricultural environment and are largely beyond the control of the individual farmer. These include natural risks typical to agricultural activity; limited availability of inputs, credit, mechanisation, and marketing services; poor institutional and infrastructural support; inappropriate policies and legislation; restrictive administrative and social structures; and problems associated with land tenure and the acquisition of agricultural resources. Internal constraints are those constraints that affect the farmer's ability to

operate efficiently, despite any innate potential the farmer might have to allocate resources in an economically efficient manner. Normally the farmer has some control over such constraints. These include liquidity problems; shortage of labour; lack of skills, knowledge and education; and a range of cultural factors that in some instances prevent more effective management of resources. The removal of these constraints will assist the farmer to allocate resources in an economically optimal manner.

Delgado and Siamwalla (1997) argued that some of the challenges facing African smallholders are lack of markets and high transaction costs. As a result of poor access to markets and high transaction costs, poorer farmers are excluded from participating in potentially remunerative commodities. Smallholder farmers are excluded from mainstream food markets in Southern Africa as a result of colonial legacy and due to the poor performance of their production, which is characterised by high production and transaction costs and poor quality, making them less competitive (Louw *et al.*, 2007:8). Alternative avenues for smallholder market participation include vertical integration with processors and marketers of agricultural products. However, lack of assets, market information and access to services again hinders smallholder participation in these potentially lucrative markets.

3.3 MARKETING CONSTRAINTS FACING SMALLHOLDER FARMERS

The aim of this section is to identify key constraints facing smallholder farmers in developing countries, such as lack of physical infrastructure, lack of markets, and high transaction costs. Smallholder farmers find it difficult to compete in the new market environment. They face enormous constraints when it comes to physically accessing markets. They also lack market information, business and negotiating experience, and a collective organisation to give them the power they need to interact on equal terms with other – generally larger and stronger – market intermediaries. The result is poor terms of exchange and little influence over what they are offered (Heinemann, 2002). Below follows a discussion of some of the common marketing constraints facing smallholder farmers, as revealed through international experience.

3.3.1 Lack of human capital

Smallholder farmers are often illiterate, with poor technological skills, which can be serious obstacles in accessing useful formal institutions that disseminate technological knowledge (World Bank, 2002). The majority of emerging producers are not capacitated with financial and marketing skills and are unable to meet the quality standards set by fresh produce markets and food processors. Lack of production knowledge leads to lower quality in production.

3.3.2 Constraints on production

Producing for the market calls for production resources that include land, labour force and capital. Poor access to these assets affects the way in which smallholder farmers can benefit from opportunities in agricultural markets, and especially in terms of the volume of products traded and the quality of those products (Bienabe *et al.*, 2004). Small-scale farmers lack consistency in terms of producing for the markets due to insufficient access to production resources.

3.3.3 High transaction costs

High transaction costs are caused, *inter alia*, by poor infrastructure and communication services in remote rural areas (D'Hease & Kirsten, 2003). Transaction costs also result from information inefficiencies and institutional problems such as the absence of formal markets (Makhura, 2001). Transaction costs include the costs of information, negotiation, monitoring, co-ordination, and enforcement of contracts. There is no doubt that high transaction costs tend to discourage commercialisation. Smallholder farmers are located in remote areas and are geographically dispersed and far away from lucrative markets. Distance to the market, together with poor infrastructure and poor access to assets and information results in high business costs. Since smallholders are poor, they find it difficult to compete in lucrative markets due to the high transaction costs. Traders with higher social capital are better able to enter more capital-intensive marketing activities such as wholesaling and long-distance transport, whereas traders with poor social networks face major barriers to entry into the more lucrative market segments (Kherallah & Kirsten, 2000).

Minimising transaction costs is the key to improving access to high-value markets in developing countries, because high transaction costs will make it difficult for poor smallholder enterprises to market their produce. For smallholder farmers to be integrated into the agricultural supply chain, greater effort is needed to reduce transaction costs and improve efficiencies along the agricultural value chain.

3.3.4 Lack of on-farm infrastructure

Smallholder farmers do not have access to on-farm infrastructure such as store-rooms and cold-rooms to keep their products in good condition after harvest. Lack of access to facilities such as post-harvest, storage and processing facilities constitutes a barrier to entry into agricultural markets, since the emphasis of buyers is more on quality. Access to storage facilities increases farmers' flexibility in selling their products, as well as their bargaining power (Bienabe *et al.*, 2004).

3.3.5 Asymmetry or lack of information on markets

Rural producers, and especially small farmers, have little information about the market demand, which is costly to obtain. They may gather information through contact with other actors in the commodity chain, but the accuracy of this information is not certified, since those actors might be exhibiting "opportunistic behaviour" (Bienabe *et al.*, 2004). Smallholder farmers lack information about product prices at the local level, about quality requirements, about the best places and times to sell their products, and about potential buyers. This in turn reduces their ability to trade their products efficiently and to derive the full benefit from the marketable part of their production.

3.3.6 Low quantity and poor quality

Due to their low endowment in production factors, such as land, water and capital assets, the majority of smallholder farmers produce low quantities of products that are of poor quality, which leads to their products being neglected by output markets. Increasing concentration in the food value chain is a global trend, caused by increasingly demanding consumers and concerns about food safety, which tend to make it very difficult for smallholder farmers to enter high-value markets in light of the low quantity and poor quality of their products.

3.3.7 Inconsistency in production

Studies indicate that smallholder farmers lack consistency in terms of supplying products to markets (in terms of quantity and quality). Most small-scale farmers are not consistent in terms of producing products and supplying them to fresh produce markets and agro-processing industries. According to Louw, Madevu, Jordaan and Vermeulen (2004:25), many emerging farmers can only deliver produce to fresh produce markets for two or three months of the year and cannot achieve continuity in the market. Supermarkets are also reluctant to buy from smallholder farmers for this reason. The reasons were well articulated by Reardon (2005:29) in his statement that "...supermarkets would rather not deal with smallholder farmers – they don't deliver (start/stop), don't invest (invest just one time and don't keep up), and are a major hassle to work with".

3.3.8 Transportation problems

Most small-scale farmers have no means of transport to carry their produce to markets. Transportation problems result in loss of quality and late delivery, which in turn lead to lower prices, and this is regarded as the greatest problem faced by emerging farmers (Louw *et al.*, 2004).

3.3.9 Lack of markets in rural areas

The most crucial question raised by Timmer (1997) with regard to farmers and markets related to the way in which rural decision-makers respond to incomplete and poorly functioning markets. Obviously, the rural decision-makers are negatively affected by lack of markets and imperfect information in remote areas. Most smallholder farmers are located in rural areas where there are no formal agricultural markets or agro-processing industries. They are compelled to market their produce to local communities in their areas, sometimes at lower prices, or to transport their products to towns at a higher cost.

3.3.10 Lack of bargaining power

The bargaining power of the small producers is especially low since they have poor access to market information and limited access to financial markets, which prevents them from selling their products at the most profitable time. Their lack of bargaining power may lead

them to undervalue their production and obtain a smaller share of the added value created in the commodity chain. Small farmers have particularly low bargaining power when they operate in long supply chains, where the specificity of the product transformation assets leads to the creation of oligopsony (e.g. the oil-palm and cotton sectors in West Africa) (Bienabe *et al.*, 2004).

3.3.11 Regulatory barriers

Some smallholder farmers with the potential to export some of their products are confronted with international regulation standards that they find difficult to meet. Farmers are now faced with new challenges that include products of high quality, knowledge of Good Agricultural Practices (GAP), Sanitary and Phytosanitary (SPS) measures, capacity to comply with market and regulatory requirements, new issues of conformity assessment, and traceability. This setup poses a major challenge for farm producers, especially smallholder farmers, in their efforts to position themselves as business-driven competitors in a less-controlled global trading environment.

3.3.12 Technological barriers

Technological innovations have long been a major contributor to progress in agribusiness and will continue to influence the smooth running of business in the agricultural value chain. Rapid dissemination of information and communication can lead to high cost savings. E-commerce can be a good means of minimising transaction costs in agribusiness by enabling the online buying and selling of products. In contrast to developed countries, smallholder farmers in developing countries are poor and have no access to information technology, with the majority being poorly linked to international trade due to technological barriers. Smallholder farmers' lack of access to technology has a negative effect on their ability to access markets locally, nationally, and globally.

It is imperative to highlight that it may prove complicated to take the technological innovations that are applied in developed countries and match them to smallholder farmers in developing countries due to the prevailing financial constraints, as well as lack of human capital and technological know-how.

The process is neither smooth nor inexpensive. It will require immense investment and commitment from all parties involved: government, private sector, and farmers themselves.

3.4 AGRICULTURAL SUPPORT PROGRAMMES FOR SMALLHOLDER FARMERS

To ensure that smallholder farmers graduate from subsistence farming to commercial farming, basic agricultural support services, such as access to production inputs, research and extension, infrastructure and markets, should be provided as a package to poor farmers. Rukuni (1999) observed that there is prima facie evidence that in Africa, key agricultural organisations – research, extension, training, finance, marketing and land reform – are currently not functioning as a well-oiled system. These prime movers need to be developed as a package, because international experience has shown that no single factor is sufficient to “get agriculture moving”. To develop these prime movers, sub-Saharan African countries need to invest in human capital, agricultural research, biological capital formation, and rural institutions (Eicher, 1994). Smallholder farmers must gain access to farmer support services and reliable markets to ensure that smallholder farming is profitable and contributes to economic growth. Improving access to support services may require that agricultural service institutions be transformed so that they can provide good-quality services to rural households.

It is this basic argument, as well as evidence from Zimbabwe and Kenya, that has given rise to the belief that a comprehensive farmer support strategy is the best option to promote smallholder agriculture from subsistence agriculture to commercial agriculture. Farmer support programmes that provide complementary, co-ordinated and timely services to the broad mass of farmers have the potential to improve the overall utilisation and efficiency of agricultural resources (DBSA, 1986).

3.4.1 What can be learnt from the Farmer Support Programme of the late 1980s?

The Development Bank of Southern Africa (DBSA) championed this philosophy in the late 1980s by providing agricultural support to smallholder farmers through the Farmer Support Programme (FSP) in the former homelands of South Africa. One of the premises

on which the approach to FSP was based was that it accepted the ability of traditional small farmers to respond rationally to economic incentives. Since smallholder farmers are heterogeneous, they are seriously restricted by technical, system-related and institutional factors. The FSP approach was designed as a broad-based agricultural development strategy that was crucial in the effort to increase incomes, employment opportunities, and export earnings. From its broad-based approach, the FSP was applied in the former homelands as a unimodal strategy approach to agricultural development, as defined by Mellor and Johnston (1984). Timmer (1988) defined the unimodal strategy as “one in which a broad base of smallholders are the central focus of agricultural research and extension services and the recipient of the bulk of receipts from agricultural sales”.

The focus of the FSP was on smallholder farmers, ensuring that they would have access to comprehensive agricultural support services. The supply of appropriate support services was considered a good alternative to alleviate the constraints facing smallholder farmers, allowing for more efficient utilisation of agricultural resources, with a concomitant increase in economic activities and income levels in less-developed areas (Kirsten, 1994:36). The FSP provided smallholder farmers with forms of comprehensive agricultural support, such as:

- (i) Production inputs through credit
- (ii) Mechanisation services
- (iii) Agricultural infrastructure
- (iv) Extension and research services support
- (v) Training to farmers
- (vi) Marketing support

Due to the inequitable access of black farmers to the agric-support system in South Africa, it was argued that measures such as the FSP, which could rectify these imbalances and provide fair access to the market, could improve economic efficiency (Van Rooyen *et al.*, 1987). Van Rooyen *et al.* (1987) also stated that the FSP was demand-driven, with a wide range of organisations providing essential services. The FSP recognised the need for capacity-building amongst local participants, and followed an integrated approach to alleviating the constraints under which smallholder farmers were operating by providing

access to inputs and necessary services. It introduced a shift towards more flexible smallholder farm management systems, farm sizes and cropping systems. The impact of the FSP was, however, constrained by problems related to the implementation of capacity and the questionable legitimacy of support institutions during the apartheid regime (Van Rooyen, & Nene, 1996).

Many scholars have defended the FSP approach as a good strategy to promote smallholder agriculture in Africa, terming it “a paradigm shift in the DBSA”. Experience from African countries such as Zimbabwe, Kenya and Malawi suggested that a broad-based farmer support strategy was a more effective way of promoting development. Kirsten (1994) documented that the implementation of this strategy in Zimbabwe, where institutional support and incentives were developed for small farmers to improve production, led to large increases in their contribution to the total agricultural output. Malawi and Kenya can also be mentioned as good examples of countries that achieved high agricultural output through the FSP. The overall utilisation and efficiency of agricultural resources can only benefit from farmer support programmes that provide complementary, co-ordinated and timely services to the broad mass of farmers (DBSA, 1986).

Kirsten (1994:330) found ample evidence that the implementation of the FSP and the various elements of the programme to a large extent succeeded in alleviating the constraints confronting smallholder farmers in the former homelands of South Africa. Farmers who joined the FSP gained improved access to inputs, extension services and mechanisation, along with increased production, although very little attention was paid to market development and institutional capacity-building (Kirsten 1994:315).

In general, indications are that the FSP positively influenced smallholders in a number of locations, mainly the Kwazulu-Natal Province and the areas formerly known as Lebowa, Kangwane and Venda, and smallholder farming projects were far more cost effective and sustainable than the large-scale development and settlement projects that had previously been the main strategy for agricultural development in South Africa (Van Rooyen & Botha, 1994).

Based on the DBSA's (1989) documented scientific evidence on the FSP (Kirsten, 1994; Van Rooyen & Botha, 1994; Van Rooyen *et al.*, 1987), it can be argued that the FSP, in comparison to the more recent CASP, to a large extent succeeded in alleviating the constraints faced by smallholder farmers. Farmers who joined the FSP were given improved access to inputs; extension advice was generally available to them, and mechanisation services were more readily available and more reliable (Kirsten, 1994:149). Naledzani (1992:265) found that FSP clients invested more in agriculture, were more productive, achieved higher incomes, had higher household expenditures, and made more use of extension services and farmer institutions than non-clients. The change in South African government and institutional structures in 1994 led to the collapse of the FSP. Perhaps it is now time to review how the FSP managed to be successfully planned and implemented, so that policymakers and policy implementers can learn from this experience and implement similar programmes successfully in South Africa. Guidelines were put in place in the provision of support services in an attempt to overcome the constraints confronting smallholder farmers in particular. The following general guidelines applicable to the FSP as a whole should be implemented in the economic assessment of support programmes (DBSA, 1986):

- The provision of support services should be comprehensive and all the elements should be provided in an integrated fashion.
- Attention should be paid to the effective and potential demand for the support services.
- Cognisance must be taken of the existing supply of support services, both within the locality and in the region as a whole;
- The sequential nature of agricultural development necessitates the timely and co-ordinated establishment of support services within an appropriate timeframe. This includes taking into account the sequential adoption of technology by farmers;
- As a general principle, the privatisation of services should be encouraged and activated by the private sector. Training and extension are exceptions, although the private sector can assist in making these programmes more effective. It must be recognised that in certain circumstances, public sector management may be necessary to ensure adequate supply services and to regulate the supply of services by the private sector.

- The socio-economic benefits should exceed the socio-economic costs of the project or programme. Public sector support to farmers on contracts to enable them to participate on a profitable basis in a programme can thus only be justified by the positive socio-economic benefits of such a programme accruing to the economy.

3.4.2 Comprehensive Agricultural Support Programme (CASP)

The National Department of Agriculture (NDA) in South Africa realised that it was not sufficient to provide prospective farmers with land or even capital. The need for the Comprehensive Agricultural Support Programme (CASP) arose from the recommendations of the Strauss Commission report, which recommended financial “sunrise” subsidies, and the adoption of a “sunrise” package of enabling conditions for the beneficiaries of the land reform programme (NDA, 2002). The purpose of CASP is therefore to establish a financial mechanism to support farmers during the start-up phase. Farmers must be empowered to manage their businesses both efficiently and effectively. The following six areas of support were identified:

- i. Information and knowledge management
- ii. Technical and advisory assistance, and regulatory services
- iii. Training and capacity-building
- iv. Marketing and business development
- v. On-farm and off-farm infrastructure and production inputs
- vi. Financial assistance

Apart from the government’s efforts to ensure that small-scale farmers have access to comprehensive agricultural support services, the general consensus is that the provision of such services to the smallholder farming sector has generally been static in South Africa due to the incompetence of some service providers in dealing with smallholder farmers. The main objective of CASP is to assist emerging farmers who accessed land through land reform. However, the majority of farmers who have accessed land have not yet received any assistance within the targeted priority areas. Machethe (2004) argued that currently these services are not available to the majority of smallholder farmers, and where farmer support services are available, often only a single service (e.g. extension) is provided. Inadequate physical infrastructure in rural areas, particularly in the former homeland

areas, remains a major obstacle to smallholder agricultural growth in South Africa. Government initiatives to improve the quality and quantity of infrastructure in the rural areas through programmes such as the Community-Based Public Works Programme, the Consolidated Municipal Infrastructure Programme, the Poverty Relief and Infrastructure Investment Fund, and the Comprehensive Agricultural Support Programme have registered limited impact on the lives of many rural people (Everatt & Zulu, 2001).

The challenge facing the NDA with regard to CASP is to apply all pillars and implement them practically in all provinces of South Africa. Although CASP is currently being implemented in South Africa, there seems to be lack of co-ordination between government officials at national level and those at provincial level. The approach of providing all pillars as a “package” is still not being adhered to in some provinces, and this incorrect implementation of CASP by the NDA is causing the programme to fail to achieve its desired results in the long-run.

Although the lack of convincing studies on CASP means that it cannot be concluded that CASP is either a failure or a success, the general consensus is that the pillars/elements of CASP are not being implemented together as a package in supporting smallholder farmers in South Africa. If agricultural support services are not implemented together as a package to overcome the constraints confronting smallholder farmers, it will be more challenging to promote traditional agriculture to graduate from subsistence to commercial agriculture. If CASP is only partially implemented in South Africa, it is evident that the socio-economic costs will exceed the socio-economic benefits, particularly when dealing with poorly resourced farmers.

3.4.3 CASP and market access

Access to the profitable market by most black emerging farmers remains an undisputed challenge in most of the developing countries, and thus smallholder farmers in South Africa are not immune to this challenge. Lack of access to markets is a major constraint facing smallholder farmers in developing countries, because smallholder farmers find it difficult to move from subsistence farming to commercial farming if they do not have access to markets. Scientific evidence shows that lucrative markets can change the

livelihoods of poor farmers, and if smallholder farmers lack access to these markets, they will not be motivated to produce on a sustainable basis.

It is imperative to highlight that smallholder farmers will only have access to markets if they have access to comprehensive agricultural support services. A major challenge confronting the public and private sectors in South Africa is how to assist smallholder farmers with adequate support services to ensure successful participation in high-value markets. Ensuring successful market participation by smallholder farmers requires that they gain access to reliable and high-quality farmer support services such as production inputs, on-farm infrastructure, training and extension services. To ensure that smallholder farmers have access to markets, the government – through CASP – should play a significant role by ensuring that all support services are in place to assist farmers, particularly in rural areas.

3.5 CONCLUSION

This chapter examined the general constraints confronting smallholder farmers in South Africa. The supply of appropriate support services could alleviate these constraints, allowing more efficient utilisation of agricultural resources and increasing the opportunities for smallholder farmers to supply agricultural markets. The FSP strategy, to some extent, attempted to address some of the constraints facing smallholder farmers in the former homeland areas of South Africa by taking more broad-based approach in comparison to the more recent CASP. To overcome most of the challenges confronting smallholder farmers in South Africa, the various elements of CASP need to be implemented together as a package. Perhaps it is now time to reinvent the wheel and examine how the FSP strategy succeeded in overcoming some of the constraints facing smallholder farmers in the former homelands at the time and to replicate some of those strategies in order to successfully implement CASP in the rural areas of South Africa.

New markets for higher-value agricultural and food products could provide small-scale farmers – who make up a large proportion of the poor in developing countries – with a vital opportunity to enhance and diversify their livelihoods. However, they must first overcome a wide range of constraints prohibiting them from accessing such markets,

including limited access to production inputs, transportation links, and market information. In the new paradigm of agricultural environment, smallholder farmers find themselves at a major disadvantage. The majority do not understand the market or how it works and why prices fluctuate; they have little information on market conditions and prices; they are not organised collectively, and they have no experience of market negotiation. These challenges are having an impact on the ability of small-scale farmers to sell to national markets, and even to local supermarkets, and they are thus further crowded out of the global supply chains.

CHAPTER 4

DESCRIPTIVE PROFILE OF SMALLHOLDER FARMERS AND MARKETS IN THE LIMPOPO PROVINCE

4.1 INTRODUCTION

The agricultural sector in the Limpopo Province is a vital engine of economic growth by virtue of its labour absorption capabilities and its status as source of income for thousands of smallholder farmers, hawkers, and street vendors. The sector contributes towards foreign exchange earnings and makes essential inputs into other manufacturing industries through forward and backward linkages. Agriculture is a significant employer of rural people in the Limpopo Province and plays a crucial role in reducing poverty. The study by Machethe, Mollel, Ayisi, Mashatola, Anim and Vanasche (2004) found that farming is the greatest contributor to household income in the Limpopo Province. However, the participation of smallholder farmers in commercial agriculture is still major cause for concern since the majority are excluded from supplying to high-value markets due to a number of challenges.

The Limpopo Province is considered as one of the provinces in South Africa with more potential in terms of producing high-value agricultural products. Being one of the most important provinces in terms of agricultural production in South Africa, the province is divided into five districts, namely; Capricorn, Waterberg, Sekhukhune, Vhembe, and Mopani. All these districts contribute to the economy of the province through agricultural activities, albeit of a more commodity-specific nature. Most of the agricultural produce in the province is produced by both smallholder farmers and commercial farmers. Most of the smallholder farmers market their produce to informal markets, while commercial farmers market their produce to formal markets through take-off agreements.

Due to the lack of agro-processing industries, most products produced in the province are marketed as raw products to local, national and international markets. As in the other provinces of South Africa and in developing countries, smallholder farmers in the Limpopo Province are faced with common challenges such as lack of access to

comprehensive agricultural support services. Although smallholder farmers are highly motivated to become prosperous farmers, unless they are well supported along the value chain by extension officers and receive financial assistance from the government, the dream of revitalising, expanding and strengthening the sub-sector will be shattered (Nesamvuni, Oni, Odhiambo & Nthakheni, 2003). The performance of the agricultural sector has remained inadequate despite many efforts by the provincial government to develop an efficient agricultural sector. The challenge facing the provincial government is to integrate smallholder farmers into the value chain. This process is neither smooth nor inexpensive, as it requires major investment in on-farm and off-farm infrastructure from both public and private domains.

4.2 FARMING ENTERPRISES IN THE LIMPOPO PROVINCE

The horticulture division, which includes the vegetable and fruit industries, contributes 57 percent of total farming income in the Limpopo Province, followed by livestock with 25 percent and field crops with 11 percent. The provincial agricultural sector contributes 8.3 percent to national gross agricultural income (NDA, 2008). Farming enterprises are indicated in Figure 4.1 and Figure 4.2, which highlight the dominance of the horticultural sector in the province. Agricultural production in the Limpopo Province is diverse, with the majority of smallholder farmers tending to focus on the production of field crops, which is dominated by maize, particularly during the summer months. Other field crops grown, although not on a large scale, are grain sorghum, millet, beans and groundnuts under dry land conditions. These crops are grown simultaneously on the same field (intercropping). Vegetables are also grown by a few smallholder farmers who have access to water and irrigation infrastructure. The primary vegetables produced in the province are tomatoes, potatoes cabbage, spinach, butternuts, beetroots, carrots, and etc.

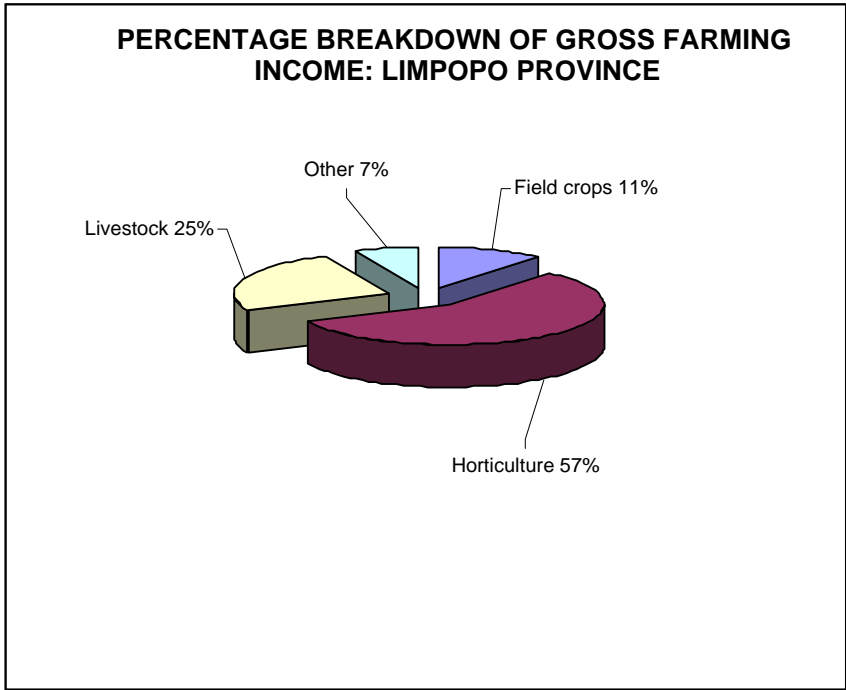


Figure 4.1: Percentage breakdown of gross farming income in the Limpopo Province

Source: NDA (2008)

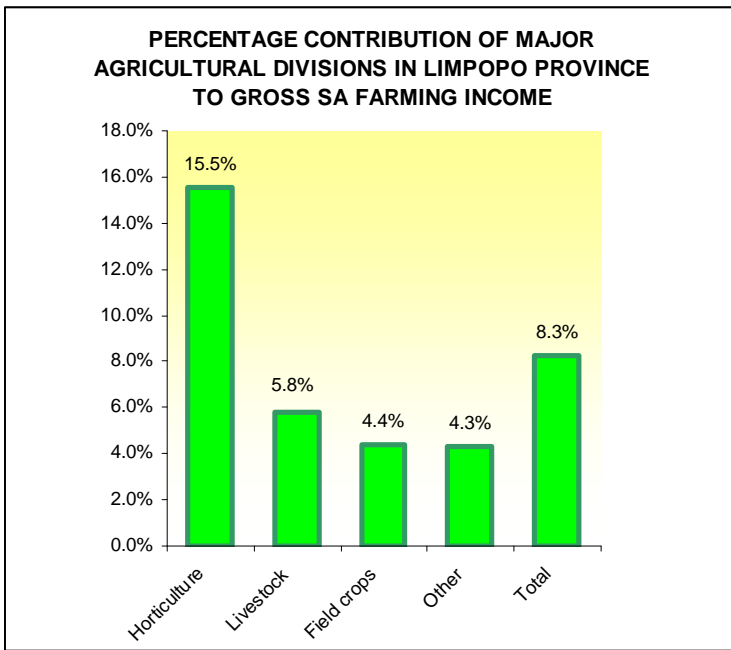


Figure 4.2: Contribution of major agricultural divisions in the Limpopo Province to national gross income

Source: NDA (2008)

4.3 DESCRIPTIVE PROFILE OF CAPRICORN DISTRICT

The Capricorn district is comprised of five municipalities, namely Aganang, Blouberg, Lepelle-Nkumpi, Molemole, and Polokwane. Capricorn has a population of over 1.1 million people, with 61% deemed to be living in poverty (Statistics South Africa, 2008). The provincial capital, Polokwane, lies within the Capricorn district, and most of the province's financial and commercial activity takes place in the capital city. Agriculture is also an important contributor towards the gross domestic product (GDP) and job creation in the district. Smallholder farmers in Capricorn district constitute 82 percent and commercial farmers 18 percent of farmers (NDA, 2009).

The main agricultural commodities produced in the district are vegetables with a 41 percent share, followed by field crops at 32 percent and livestock at 27 percent (NDA, 2009). Most of these commodities are mainly produced by white commercial farmers, with the majority of black small-scale farmers still producing on a small scale – including those who have access large farms through land reform programmes. The majority of smallholder farmers in the rural areas of the district produce maize under dry land conditions, as well as vegetables such as cabbages, tomatoes and spinach on a subsistence basis. Potatoes are mainly produced in the Blouberg and Molemole municipalities by both black and white commercial farmers.

The city of Polokwane, which is located in the Capricorn district, is the capital of the Limpopo Province and a major potential market. It is regarded as the distribution centre (DC) for agricultural products since there are a number of supermarkets and fresh produce markets. Polokwane has marketing outlets such as Woolworths, Fresh Mark, Pick 'n Pay, Shoprite/Checkers, Fruit & Veg City, Spar, and the Goseame Fresh Produce Market.

4.4 DESCRIPTIVE PROFILE OF VHEMBE DISTRICT

The Vhembe district is the northernmost region in the Limpopo Province and covers an area of 21 000 square kilometres. The district is divided into four local municipalities, namely Makhado, Musina, Mutale and Thulamela. The district is well known for subtropical fruits and horticultural production.

The agricultural sector remains an important industry in the economy of the Vhembe district. Horticultural production is a major part of the district's agricultural sector, with subtropical fruit being clustered in the centre of the Makhado municipality. Citrus production also takes place in the district and is concentrated in the Musina and Makhado areas, with tomato production taking place along the northern border of the Musina municipality and to the north-west of Makhado.

The main commercial products cultivated in the district are tomatoes, bananas, avocados, mangoes and cabbage. Small-scale farmers generally produce vegetables such as cabbage, chillies, tomatoes, onions and pumpkins. The majority of smallholder farmers also produce staple maize crops together with groundnuts and pumpkins (intercropping) under dry land conditions, particularly during the rainy season. Agricultural production in the district, as in many other regions, is highly dualistic, with agricultural activities being characterised by well-developed and large-scale commercial farms on the one hand and struggling small-scale and subsistence farming activities on the other. Vhembe has a population of over 1.2 million and the poverty rate is estimated to be 64.7 percent. Despite being one of the fruit-basket districts in the province, the majority of the population live below the poverty line in mostly rural communities. The major towns are Thohoyandou in the Thulamela municipality and Louis Trichardt in the Makhado municipality.

4.5 LAND POTENTIAL

The Vhembe district has high potential for vegetables in comparison to the Capricorn district. For instance, most tomato farmers in the Vhembe district can produce between 60 and 80 tons of tomatoes per hectare per cycle, while farmers in the Capricorn district produce 30 to 50 tons per hectare. This is also substantiated by the recent study conducted by the Agricultural Research Council (ARC, 2007) amongst selected local municipalities, which revealed that the Vhembe district has more arable land than the Capricorn district (see Figure 4.4 and Figure 4.5).

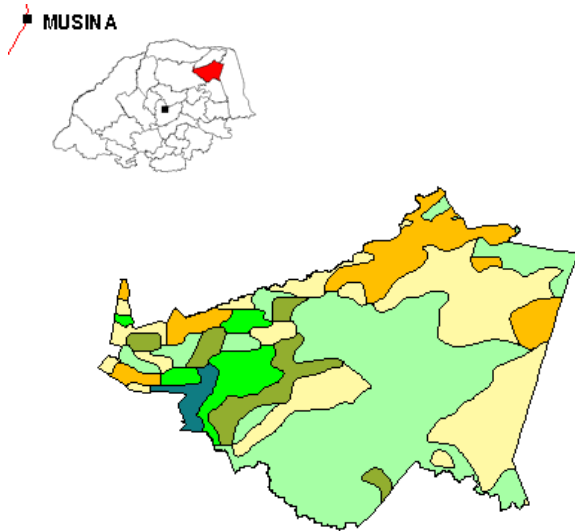


Table 4.1: Thulamela land potential

Description	Area (ha)	% of Total
Very low	0.00	0.00
Very low – Low	34 922.76	12.04
Low	82 252.63	28.36
Low – Moderate	130 990.41	45.16
Moderate	19 429.31	6.70
Moderate – High	16 249.86	5.60
High	5 186.33	1.79
High – Very high	1 033.53	0.36
Very high	0.00	0.00
Total:	290 064.83	100.00

Figure 4.4: Land potential of the Thulamela municipality in the Vhembe district
 Source: ARC (2007)

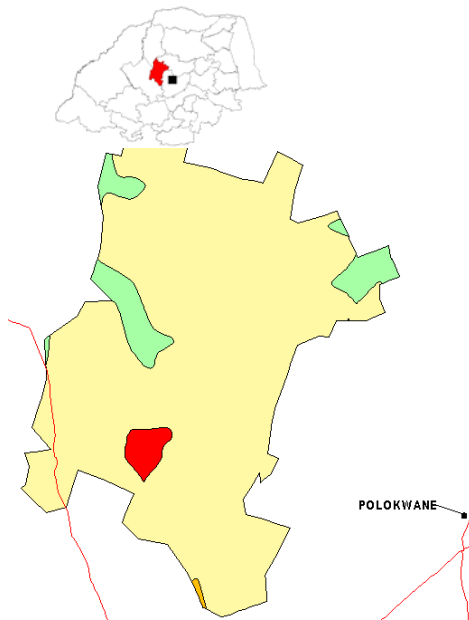


Table 4.2: Aganang land potential

Description	Area (ha)	% of Total
Very low	3 146.63	1.68
Very low – Low	311.42	0.17
Low	170 144.53	90.94
Low – Moderate	13 498.00	7.21
Moderate	0.00	0.00
Moderate – High	0.00	0.00
High	0.00	0.00
High – Very high	0.00	0.00
Very high	0.00	0.00
Total:	187 100.58	100.00

Figure 4.5: Land potential of the Aganang municipality in the Capricorn district
 Source: ARC (2007)

4.6 MAJOR VEGETABLE CROPS PRODUCED IN THE SELECTED DISTRICTS

The majority of farmers in the Capricorn and Vhembe districts produce tomatoes, followed by cabbage and spinach, as indicated in Table 4.3. The gross margins for these vegetables are presented in Table 4.4. In most cases the farmers – particularly those on communal land – grow vegetables such as cabbage, tomatoes and spinach simultaneously (intercropping) on the same plot. However, there are those farmers who specialise in growing vegetables such as tomatoes, particularly in the Musina area in the Vhembe district, as well as potatoes in the Dendron area in the Capricorn district. The level of tomato production is high in the Vhembe area, especially in Musina, while Capricorn is the leading potato-producing region.

Table 4.3: Vegetables grown in selected districts in 2008

	Vhembe District	Capricorn District
Crop	Respondents %	Respondents %
Tomatoes	78.9	46.7
Spinach	56.6	41.8
Cabbage	65.4	54.2
Potatoes	3.3	25.8
Carrots	17.5	32.9
Onions	23.3	17.6
Butternut	39.7	32.4
Beetroot	25.8	14.5

Source: Survey data

Table 4.4: Gross margins for vegetables: Average scenario

Product	Yield per ha	Production (per kg/head)	Price / unit(R)	Gross output (R)	Variable cost (R)	Gross margin(R)
Butternut	20 000	kg	1.80	36 000	13 422	22 578
Tomatoes	45 000	kg	2.50	112 500	70 110	42 390
Onions	25 000	kg	2.50	62 500	27 911	34 589
Cabbage	32 000	head	1.80	57 600	24 600	33 000
Spinach	18 000	kg	2.50	45 000	14 775	30 225
Potatoes	25 000	kg	2.20	55 000	33 523	21 477
Beetroot	15 000	kg	2.60	39 000	23 400	15 600
Carrots	13 000	kg	2.40	31 200	19 800	11 400

Source: LDA (2008)

Potatoes are mainly grown by commercial farmers in the Capricorn district, particularly in the Dendron area. The participation of smallholder farmers in potato production is constrained by a lack of irrigation infrastructure and mechanisation. Vegetables such as beetroot, carrots and onions are produced by a few farmers in both districts, and generally these vegetables are produced in small areas of less than one hectare due to lack of access to sufficient irrigation water and irrigation systems. Some respondents emphasised that they preferred to produce more beetroot, carrots and butternut, especially in late August and early September, so as to target the festive season when, as experience has shown, there is a high demand for these crops.

Farmers producing potatoes in the Capricorn district have access to national fresh produce markets in the Gauteng Province and agro-processors such as Willard's and Simba. Trucks come to collect potatoes on a regular basis after harvest. At the time of the study, there was one black commercial farmer, Mr Ratjomane in Bochum area in the vicinity of Dendron who was producing potatoes and supplying to fresh produce markets. Mr Ratjomane owned two farms, constituting 1 800 hectares, and was producing potatoes on a rotational basis of up to 380 hectares. He was marketing his potatoes to the Goseame fresh produce market in the city of Polokwane and to City Deep in the Gauteng Province. He indicated that he was able to harvest 12 000 tons of potatoes per cycle from his farms. He was transporting most of his potatoes to City Deep by trucks hired from Dynamic Trucks Company. His major concern at the time was the market price for potatoes, which had remained low for some time.

The challenge facing potato producers is to expand their production, as potatoes are in high demand by fresh produce market and agro-processors. However, there are very few black emerging farmers participating in potato production. When asked why they were not engaged in potato production, most of the smallholder farmers interviewed raised concerns about lack of access to water and other assets such as centre pivots, potato harvesters, and other farm implements.

4.7 SMALLHOLDER FARMERS AND AGRO-FOOD MARKETS IN THE LIMPOPO PROVINCE

This section explores in more detail the agro-food markets in the Limpopo Province in relation to smallholder farmers. The agro-foods markets discussed are agro-processors, supermarkets, and fresh produce markets. As in many developing countries, the participation of smallholder farmers in the agro-food markets in the Limpopo Province is extremely limited.

4.7.1 Smallholder farmers and agro-processors in the Limpopo Province

The agro-processing sector is a significant component of the vegetable industry. Many agro-processors such as Tiger Brands, Koo, Giant Foods, Willard's, Simba and McCain's engage with contract farmers in the Limpopo Province. This group concentrates on the sale of high-quality fresh produce in smaller containers or in lesser quantities. Some perform their own packaging, branding and advertising. The retail chains typically purchase the fresh produce from distribution centres, farmers, and fresh produce markets. They also sport their own preferences for certain cultivars, grading and quality. The quality of produce procured by these buyers on the market depends on consumer needs, as well as availability and market prices (Louw *et al.*, 2004:23).

There are very few agro-processing firms in the Limpopo Province, which is one of the reasons why most of the agricultural fresh produce is marketed outside the province as primary products. The few agro-processors in the Limpopo Province specialise in tomato processing. These processors include Tiger Brands, Miami Cannery, Montina, Giant Foods, Indemex, and the newly established Agro-Processors of Limpopo (APOL). Tiger Brands is directly involved with smallholder farmers, especially in the Musina area of the Vhembe district. A number of tomato-producing smallholder farmers have secured market contracts with Tiger Brands. APOL also offers market opportunities through formal contracts to tomato producers, including smallholder farmers, in the province. Miami Cannery, Indemex and Giant Foods have their own preferred suppliers who produce specific tomato varieties according to their recommendations.

The majority of the farmers supplying tomatoes to these processors are white commercial farmers who meet all the requirements of the processors.

4.7.1.1 Agro-Processors of Limpopo (APOL)

APOL is a company made up of vegetable farmers in the Limpopo Province. The majority of the farmers are organised under the Limpopo Tomato Growers' Association (LTGA). The Limpopo Department of Agriculture (LDA) funded APOL the amount of R17 million to acquire a 51 percent share in Neotech Industries Limited in order to create a broad-based economically empowered agro-processing company called Nojax, which trades under the brand name APOL Foods. Only previously disadvantaged black farmers are allowed to purchase shares in this company (LDA, 2008).

Emerging farmers who are members of the LTGA supply 200 tons of tomatoes per month to the factory. Other suppliers include ZZ2 (800 tons per month), Montana (1 200 tons per month) and Sandquest Farming (800 tons per month). The processing equipment includes a paste line, tomato-powder plant, and canning line. The factory has the capacity to handle 3 000 tons of tomatoes per month. Tomatoes are processed into a variety of food products, namely canned tomatoes, tomato paste, tomato-and-onion mix, as well as dried tomatoes. There is also a grading plant that grades tomatoes on regular a basis before processing. The high-quality tomatoes are sold to fresh produce markets while the low-quality tomatoes are processed in the factory. The factory is purposely made to process vegetable products that would not be absorbed in the market and which would otherwise go to waste. A consistent supply of tomatoes from farmers is necessary to ensure that processing at the factory is not compromised to the extent of increasing the factory's operating costs (LDA, 2008).

4.7.2 Smallholder farmers and supermarkets in the Limpopo Province

The rapid rise of supermarkets in the country is also being experienced in the Limpopo Province. The five largest corporate retailers account for an estimated 30 percent of the total fruit and vegetable market. There are approximately 154 retail outlets of the five largest corporate retailers (Pick 'n Pay, Spar, Woolworths, Score, and Checkers) in the province. Nationally, these corporate retailers spend approximately R6 billion on fresh

produce. This segment of their operations is also the fastest growing (FHI, 2007). According to a study conducted by Fresh Harvest Investment (FHI, 2007) Pick 'n Pay is the leading retailer with 95 outlets in the province, each with an estimated monthly expenditure of R200 000 per outlet, spending on average R19 million per month R228 million per annum) combined (see Table 4.5). The estimates of retailers' spend on fresh produce do not include other corporate retailers such as Score and Woolworths.

Table 4.5: Amount spent on fresh produce by corporate retailers

Retail	No. of outlets	Average spent per outlet (R mil)	Total (R mil)
1. Pick 'n Pay	95	2.4	228
2. Shoprite/Checkers	20	2.7	54
3. Spar	31	3	93
Total			375

Source: Adapted from FHI (2007)

High-value markets in the Limpopo Province, such as Woolworths, Shoprite and Spar, are normally located in shopping malls and on the city outskirts, while most of producers supplying agricultural products to these markets are based in rural areas far from the towns. The implication is high transaction costs for both the farmers and retailers. As in other regions, most supermarkets in the Limpopo Province find it difficult to outsource products from black emerging farmers due to common constraints such as inconsistent supply, low volumes, poor quality, and high transaction costs.

Consequently, the majority of smallholder farmers are excluded from the procurement list. High-value markets such as Woolworths, Fresh Mark, Pick 'n Pay, Checkers and Shoprite do not compromise their specifications when dealing with smallholder farmers. Most supermarkets have secured contracts with white commercial farmers who are able to meet the market specifications or requirements. Smallholder farmers in the Limpopo Province are especially challenged in this regard. At present, the only supermarket that really compromises when dealing with smallholder farmers is Spar, since it allows black emerging farmers to supply products even without a formal contract.

Some small-scale farmers have been able to establish contracts with supermarkets to supply them with vegetables. For example, in the Limpopo Province, emerging farmers have been able to secure market contracts and production arrangements with the Spar supermarket in Thohoyandou (Louw *et al.*, 2004). The major challenge for smallholder farmers is how to become part of the supermarket chains' procurement strategies. Supermarkets decide on the standards according to which the farmer must grow the produce, but these standards are often too high for small farmers. Meeting the demands of the procurement officers requires technical and management skills that small farmers often do not have. Those farmers that are able to access a procurement account with supermarkets are successful, but success also implies investment in equipment and logistics support, which is often not available to small farmers (ADB, 2005).

4.7.3 Smallholder farmers and fresh produce markets

The former Pietersburg / Polokwane Fresh Produce Market, which was owned and operated by NTK in Polokwane in the Capricorn district, is no longer operational. Instead, the market is now being used as a collection point for products trucked from farmers supplying to the Fresh Produce Markets (FPM) in the Gauteng Province. There is no large fresh produce market in the Vhembe district, and some farmers market their produce to the Johannesburg Fresh Produce Market (JFPM). There exists an opportunity to establish fresh produce markets in the Vhembe district that will act as points of consolidation and collection for products being supplied to various market segments. The establishment of fresh produce markets in the district would be beneficial to black emerging farmers in the province.

A number of fresh produce markets are currently operating successfully in Polokwane in the Capricorn district. The Goseame Fresh Produce Market is most preferred by farmers in the Capricorn district. This market sources large volumes of products from white commercial farmers, since they produce large quantities of good quality. Very few smallholder farmers supply vegetables to the Goseame Fresh Produce Market. The Polokwane Fruit & Veg City is also dominated by white commercial farmers. It is extremely difficult for smallholder farmers to secure contracts with Fruit & Veg City due to the constraints they are facing.

Fruit & Veg City offers contracts to large and medium-sized farms with good on-farm infrastructure that allows them to provide a year-round supply. The Goseame Fresh Produce Market in Polokwane is the only large fresh produce market in the province. This market sources most of its vegetables and fruit from farmers without formal contracts. Very few smallholder farmers in the province supply their produce to this market, with commercial farmers being the regular suppliers. More than 70 percent of fresh produce is sourced from commercial farmers.

4.7.4 Agricultural market infrastructure in the Limpopo Province

Despite being one of the provinces with the potential to produce high volumes of fruit and vegetables in South Africa, the Limpopo Province is still constrained by insufficient agro-processing industries and fresh produce markets. The province has a backlog in agricultural market infrastructure created by historical imbalances during the apartheid regime. Consequently, at times of oversupply of fresh agricultural products, producers are compelled to market their produce to other provinces such as Gauteng at high transaction costs. Many feasibility studies have been done since 1994 in an attempt to establish fresh produce markets in the Limpopo Province, but there has not been any notable success in these ventures. These studies have assessed fresh produce markets within the context of traditional fresh produce marketing, using the consumption base of the province as a viability test. However, all these studies have failed to consider the broader market segments.

Despite the afore-mentioned challenges, the National Department of Agriculture (NDA), the Limpopo Department of Agriculture (LDA), the National Agricultural Marketing Council (NAMC) and Trade Investment Limpopo (TIL) hold the firm view that there is a need to consider the possibility of establishing agro-processing and fresh produce markets in the province. It is a known fact that the establishment of agro-processing industries and fresh produce markets adds value to the local economy in terms of employment, revenue, support services, and the creation of demand for associated goods and services through forward and backward linkages. Agro-processing industries and fresh produce markets can also generate a demand for products from other areas, further increasing the economic activity in the province.

The challenge is to locate these facilities in areas that are more productive in horticultural crops to ensure that the facilities become operational so as to avoid fruitless expenditure. Establishing agro-processing industries for fresh produce closer to the production areas would ensure that value-adding occurs in those areas with high agricultural potential. The establishment of fresh produce and agro-processing industries would benefit most of the rural smallholder farmers with the potential to succeed in agricultural production. Such facilities would also encourage black emerging farmers to engage to a greater extent in agricultural activities. The processing of fresh produce would enable smallholder farmers to add value to their products and to link up with high-value markets within and outside the province, since certain products would be marketed as finished products.

4.7.5 Establishment of depot facilities

The NAMC and the NDA jointly commissioned Mokgongoa Agricultural Consulting (MAC) to conduct a feasibility study on the establishment of two fresh produce depot facilities in each of the nine provinces of South Africa. The NAMC and NDA jointly view the establishment of key marketing infrastructure as being imperative to give emerging vegetable and fruit producers a competitive edge. In instances where emerging producers are well-organised, the sharing of market infrastructure and transport could significantly reduce their expenditure and improve gross farm income.

Market infrastructure would allow the producers to deliver their produce to a central point where it would be cleaned, rid of post-harvest pests, graded, packaged, loaded, and transported to fresh produce markets in South Africa and neighbouring countries where the produce would fetch high prices. Depot facilities would also act as leverage points for networking between farmers and various stakeholders, where market information, production information and value chain extension services could be cascaded to the producers (DOA, 2008).

A recent study conducted by Mokgongoa Agricultural Consulting (MAC, 2008) in the Limpopo Province found that the establishment of fresh produce depot facilities would be most feasible in the Thulamela municipality in the Vhembe district and in the Greater Tzaneen municipality in the Mopani district. The proposed depot facilities should provide

the beneficiaries with a support service that includes technical advice on production, production finance, transportation of produce from the farms to the depot and from the depot to the market, production schedules, and crop rotation systems (MAC, 2008). The question that remains is whether smallholder farmers would benefit from this resource. In ensuring that smallholder farmers become participants in these depots and that these depots become functional, smallholder farmers will require comprehensive support services along the value chain from both the public and private sectors.

4.8 CONCLUSION

This chapter provided a descriptive profile of smallholder irrigation farmers in the survey areas and agricultural markets in the Limpopo Province. The participation of households in agricultural markets was determined by many factors such as land suitability, land size, type of crop, and good on-farm infrastructure. Commodities that are commonly grown in the districts were identified in the chapter. This chapter also presented the land potential for selected commodities in the districts under investigation. The chapter also discussed agricultural markets such as agro-processors, fresh produce markets and supermarkets in relation to smallholder agriculture in the Limpopo Province.

Although the Limpopo Province has high potential for fruit and vegetable production, the province is constrained by a lack of agro-processing facilities and market infrastructure, which negatively affects the participation of smallholder farmers in commercial agriculture, as these farmers experience high transaction costs. Investing in agro-processing and market infrastructure requires that both public and private sectors play a more supporting role. As Stiglitz (1998:22) emphasised, “The new agenda...sees government and markets as complements rather than substitutes”. It is widely accepted that public investment in agriculture is an essential element when it comes to attracting private-sector investment. These partnerships and co-operation between the public and private sectors will play a crucial role in ameliorating transactions costs and improving the competitiveness of local smallholder farmers.

CHAPTER 5

PRODUCTION AND MARKETING CONSTRAINTS FACING SMALLHOLDER FARMERS IN THE VHEMBE AND CAPRICORN DISTRICTS

5.1 INTRODUCTION

Before devising strategies to support smallholder farmers and promote them to high-value markets in the agribusiness value chain, it is of the utmost importance to know and understand the challenges that small-scale farmers are facing with regard to the production and marketing of their agricultural products. This chapter reflects the findings from the study conducted in the two districts selected for this purpose. Producing for the market calls for production resources that include production means such as land, water, labour and capital. Poor access to these assets affects the way in which smallholder farmers are able to benefit from lucrative markets.

5.2 ACCESS TO RESOURCES AND SUPPORT SERVICES

This section reports on the resources and support services accessed by the smallholder farmers interviewed in the survey. The resources discussed in this section are access to land, water and irrigation infrastructure, mechanisation, production inputs, and extension advice as a support service.

5.2.1 Access to land

Land is regarded as one of the most important agricultural resources, playing a crucial role in agricultural productivity. It is widely acknowledged that access to land, complemented by other resources, is the most fundamental determinant of income-earning potential in rural areas. Although almost all of the farmers in the sample who were interviewed had access to land for vegetable production, the size of the plot, especially in communal projects, was identified as a major constraint. The situation is exacerbated by the high number of households on a single small plot. For example, the *Ratanang* project in the Capricorn district has 26 active beneficiaries producing vegetables on nine hectares of land. Although the project produces good-quality vegetables such as cabbage, the profit

margin per beneficiary is low, as they must share the total net profit. The need to depopulate the households becomes evident if the sustainability of the project is to be ensured.

Table 5.1: Surveyed farmers' access to land (size in ha)

Farm size in Ha	Number of respondents: Capricorn District	%	Number of respondents: Vhembe District	%
<1	6	10	2	3
1-5	21	35	28	47
5-10	13	22	21	35
10-20	5	8	7	12
20-30	0	0	2	3
40-50	3	7	0	0
>50	12	20	0	0
Total	60	100	60	100

Source: Survey data

As indicated in Table 5.1, most of the surveyed households that were producing on communal land were doing so on plots smaller than five hectares. Very few of the farmers interviewed owned land more than 30 hectares in size. In the survey, it was found that the majority (68%) of respondents were farming on communal land. Approximately 25 percent of farmers had accessed their land through the land reform process, with 19 percent being based in the Capricorn district. Minority of farmers (3%) in the survey had purchased their land with loans from financial institutions, while four percent had inherited their land from family members. The majority (88%) of respondents were not fully utilising their land due to lack of on-farm infrastructure. The farmers identified water and irrigation infrastructure as being the major constraints causing under-utilisation of the land.

5.2.2 Access to irrigation water

Irrigation water is the principal agricultural resource and plays a crucial role in production yields. In both districts, access to sufficient water for irrigation by smallholder farmers was identified as the primary constraint. From the survey, it emerged that 69 percent of the farmers interviewed were using boreholes on their farms, while 31 percent were making use of river and stream water to irrigate their crops. Approximately 86 percent indicated that the water available was not sufficient to irrigate their crops, which posed a restriction in terms of expanding their production. The Capricorn district is disadvantaged by low yields of water from boreholes in comparison to the Vhembe district. For example, most farmers, particularly in the Dalmada area of the Polokwane municipality in the Capricorn district, indicated that their boreholes could pump an average of between 2 500 and 7 000 litres per hour, while farmers in the Vhembe district reported a water yield of about 6 000 to 12 000 litres per hour.

5.2.3 Irrigation infrastructure

Irrigation infrastructure includes resources such as boreholes and irrigation systems. Without this resource, smallholder farmers will find it difficult to produce on a sustainable basis. The most important point to mention with regard of irrigation infrastructure is the type of irrigation system that smallholder farmers utilise in their farming activities. It is well known that the modern type of irrigation system is a more efficient method of irrigation than the old type of system. For example, the majority (73%) of poor smallholder farmers interviewed were using the old or traditional furrow-and-sprinkler method, since it is less costly than the more expensive modern method of drip irrigation or the centre pivot system, which conserves water. Only the more prosperous farmers interviewed (less than 30%) indicated that they were using the latter system of irrigation. Farmers in the Vhembe district have better access to on-farm resources such as drip irrigation systems, particularly in the Musina area, where farmers produce tomatoes and other vegetables.

It was also found that in both districts, certain projects were not fully operational because they had been only partially funded through Comprehensive Agricultural Support Programme (CASAP) funds for on-farm infrastructure. Most of the non-operational projects

were found to be in the Capricorn district. For example, some projects had been funded with fencing materials and boreholes but without electric pumping machines and irrigation systems, while others such as the *Mailula* project had been provided with irrigation infrastructure but without a water source. Partial funding is a fruitless expenditure, especially for poor smallholder farmers who do not have the financial resources to complement the on-farm infrastructure provided by the government.

The other major constraint confronting smallholder farmers is crime and the vandalism of on-farm infrastructure, especially for group-owned projects. From the survey, 29 percent of households indicated that they had experienced the theft of water-pumping machines and electric cables, which had a negative impact on vegetable production. Crime and the vandalism of on farm-infrastructure such as electric cables, pumping machines and transformers were found to be more prevalent on group-owned projects than on farms owned by individual producers.

5.2.4 Mechanisation

Few farmers (12%) indicated ownership of tractors and modern farm implements, which they were using to produce crops in their farms. The majority of poorer farmers (88%) indicated that they did not have access to these assets and had to hire the equipment from the more prosperous farmers. It was revealed that farmers were paying between R400 and R600 per hectare to hire tractor services from others.

5.2.5 Access to production inputs

The production inputs discussed in this section refer to seeds, fertilisers and pesticides. The effectiveness of production inputs in increasing crop productivity is influenced by the type (quality) of inputs and their level (quantity) of application. Poor application of production inputs leads to low yields. Very few smallholder farmers have access to modern production inputs because they do not have access to credit. However, some farmers are reluctant to seek funds on credit to procure fertiliser for fear of crop failure or not knowing where to sell their products after harvest. It has been also found that farmers operating in groups, particularly in group projects, are more unwilling to apply for production loans and prefer government financial assistance to purchase production

inputs. The situation differs in the case of more prosperous individual smallholder producers who supply the formal markets. Such farmers are more willing to apply for production loans from financial institutions.

The study found that 41 percent of those who participated in the interview preferred using organic manure for their vegetable production, since they had access to abundant cheap animal manure in their kraals, which enabled them to minimise production costs. However, some respondents were using organic manure to complement inorganic manure, particularly in times of financial constraint. In some areas, access to inputs was being seriously undermined by financial constraints and high transaction costs caused by having to travel long distances to towns to buy production inputs. Most of the farmers interviewed were purchasing their production inputs from NTK, Sasol, and Progress Milling. It was found that most of these farmers were purchasing production inputs individually rather than in co-operatives, and when asked why they were not purchasing inputs as a group in order to minimise costs or to obtain discounts from input suppliers, they raised issues of distance from one another and also different planting periods. Only those farmers operating in groups in the same projects were able to purchase production inputs simultaneously.

5.2.6 Extension support services

Extension is an important means of bringing new technologies to farmers and identifying the problems experienced by farmers in view of appropriate research. As mentioned in the first chapter, the Limpopo Department of Agriculture (LDA) has adopted a municipality-focused approach to service delivery, and so the extension officers are based in all municipalities and service centres in the province. This implies that extension services are close to farmers in rural areas. This serves to minimise transportation costs for farmers when they need to enquire about services offered by the department, unlike in the past when they had to travel to the head office in Polokwane. Personal visits to agricultural projects by extension officers are the most common form of extension services in both districts. Extension officers in both districts play a crucial role in mobilising farmers.

In most cases, extension officers and other officials from the department arrange farmers' days and information days and invite other stakeholders from different institutions such as the Limpopo Business Support Agency (LIBSA), Trade Investment Limpopo (TIL), NTK, Small Enterprise Development Agency (SEDA), etc. to come and hold presentations on the services they can offer farmers.

From the survey, 44 percent of respondents indicated that they were working closely with extension officers and were benefiting from their services. However, 56 percent of farmers revealed that they were not receiving visits from extension officers, and when they did it took long periods of time for these officers to come to their farms and monitor operations. These farmers indicated that they were dissatisfied with the services being provided by the extension officers. In many cases, the farmers indicated that the extension officers' visits were routine in nature and lacked specificity and direction. There is no specific record of the extension officers' discussions with farmers, or of the conditions of the planted crops or any information on the outbreak of diseases or new farming techniques. Most of the farm visitors' books or attendance registers of the farmers contained the typical statement: "Offered extension advice to farmer". Although an extension service is delivered to the farmers, the quality of such service is questionable, since some farmers also revealed that there is no follow-up from government officials to ensure that their recommendations are properly followed.

5.3 MARKETING CONSTRAINTS FACING SMALLHOLDER FARMERS

The marketing constraints discussed in this section are lack of transport, small quantities and poor quality, lack of collective efforts by smallholder farmers, distance to markets, market information, and inconsistency in production and marketing.

5.3.1 Lack of transport

Access to transport by smallholder farmers plays a significant role in their ability to access markets. The quality of vegetables begins to deteriorate from the moment of harvest and this deterioration continues throughout the marketing process. Since vegetables are highly perishable, there is a sense of urgency in marketing these products as quickly and efficiently as possible in order to maintain their farm-fresh value.

The majority (73%) of the farmers interviewed did not have access to transport logistics to transport their products to the markets of their choice, and they were forced to hire transport from other people in their communities in order to market and purchase their production inputs. However, it has also been found that some farmers find it costly to hire transport, especially after harvesting, and consequently women often carry the produce on their heads or in carts and wheelbarrows. This method is also sometimes used to transport production inputs after purchase.

The study found that smallholder farmers lack access to transport to convey their products to formal markets. Minority of farmers (6%) surveyed indicated that extension officers sometimes offered the use of their own vehicles to transport the farmers' produce and to collect production inputs at no cost, since these officers regard the trip as official business and claim the costs from the government. Farmers indicated lack of access to transport as the major constraint when it comes to accessing markets in towns and consequently they are forced to sell their produce to local customers at lower prices for fear of their fresh produce rotting. Only 27 percent of farmers surveyed owned their own vehicles (bakkies), assisting them to access production inputs and output markets. Bakkie ownership was found to be more prevalent amongst individual farmers than groups of people farming in projects.

5.3.2 Small quantities and poor quality

It is common knowledge that formal markets refuse to procure produce in small quantities and of poor quality from isolated smallholder farmers. Some of the interviewed farmers who were not participating in formal markets indicated that they had at one time had contracts with supermarkets and agro-processors, but those contracts had been terminated due to inconsistency of quality and quantity delivered, since these markets require large quantities of good-quality products on a sustainable basis. Only 39 percent of the farmers indicated that they were producing vegetables in an area larger than five hectares. Access to land by smallholder farmers is not a major constraint; however, utilising the land to full capacity is the challenge confronting these farmers due to the production constraints highlighted earlier. The quality of products is mainly affected by the type of soil, the production inputs used, and the technical knowledge of the farmers.

Only the few more prosperous farmers are able to produce vegetables of good quality, because they have access to arable land and production inputs. The majority (more than 60%) of the respondents, who were producing products of poor quality, were selling their products at lower prices to local informal markets where quality is compromised in comparison to formal markets.

5.3.3 Lack of collective efforts

A total of 54 percent of farmers surveyed in both districts indicated that they were members of commodity associations such as the Limpopo Tomato Growers' Association (LTGA), but they stated that they were operating individually rather than in association when producing and marketing their products. Some farmers (52%) indicated that they did not understand how the LTGA operates and that they had only joined the association because they had been advised to do so by extension officers. However, some farmers, especially those not operating in projects or in schemes, indicated that they were willing to work together with others in co-operatives, but the major constraint to this was their geographical dispersion and distance from one another, making it difficult for them practically to work in collaboration when purchasing production inputs and marketing their products.

5.3.4 Distance to markets

It is well known that proximity to towns where formal markets are located reduces transaction costs in agriculture, since smallholder farmers need to access input and output markets. Factors that determine access to input and output markets include distance to the markets, the state of the roads, the cost of transportation, and the frequency of visits to these markets. Rural service centres, nearby towns and cities are often important sources of inputs for farmers and provide a market for farm produce (Chaminuka, Senyolo, Makhura & Belete, 2008).

The more prosperous farmers in the Musina and Thohoyandou areas in the Vhembe district in particular indicated that when producing tomatoes in bulk, they sometimes supplied to fresh produce markets in the Gauteng Province such as the Johannesburg Fresh Produce Market (JFPM) which is situated \pm 478 kilometres away. Majority of smallholder

farmers lack logistical infrastructure such as cold rooms, pack houses, refrigerated transport to keep their products in good quality particularly for long distance markets.

These long-distance markets offer low profit margins since farmers have to pay the transportation costs for the trucks that come to collect their products at the collection point, and they also have to pay a certain percentage to the market agents for marketing their produce.

The study found that farmers supplying to the agricultural markets seem to be located closer to towns than those who do not. For example, farmers in the town of Kalkfontein, approximately six kilometres from Polokwane in the Capricorn district, supply their produce to the Steka Restaurant, Goseame Fresh Produce Market and Fresh Mark, all based in the town of Polokwane. A similar situation can be found in Thohoyandou where the farmers who supply vegetable products to Spar and to hawkers at taxi and bus ranks are located 14 kilometres away from the town. This proximity to the markets gives farmers more opportunity to access market information and agricultural services than farmers who are located far away from town. Smallholder farmers located far from towns market their products to local hawkers, sometimes at lower prices.

5.3.5 Market information

The more market information a household has, the lower its transaction costs will be, thus increasing market participation (Makhura, 2001:102). The majority (76%) of the farmers interviewed in both districts indicated that they did not have access to market information, especially in respect of market prices and products that in high demand by markets in certain periods. In brief, these farmers lack information about product prices at national level, as well as quality requirements, the best places and times to sell their products, and potential buyers. However, an interesting finding was that almost 85 percent of farmers surveyed had access to cellular phones. This implies a willingness by smallholder farmers to use technology. Cellular phones can help farmers to network with different stakeholders and gather market-related information, e.g. market prices, on a regular basis. However, the survey revealed that only two percent of the farmers were using cellular phones to obtain information on market prices from the JFPM.

5.3.6 Inconsistency by smallholder farmers

A total of 34 percent of farmers indicated that they had at one time had the opportunity to supply their products to formal markets, but due to inconsistency within their projects, those opportunities had faded away. These farmers raised reasons such as conflict, theft, poor recordkeeping, profit-sharing at the initial stage of the project, and lack of access to finance for production inputs. The study also found that individual producers from both districts were more consistent and sustainable than group-owned projects in terms of supplying products to formal markets such as fresh produce markets, agro-processors and supermarkets.

5.4 MARKET PARTICIPATION BY SMALLHOLDER FARMERS

This section discusses the marketing channels used by smallholder farmers, as revealed by the survey. Most of the smallholder farmers indicated that they were selling their products directly to hawkers and local markets. This is summarised in Table 5.2, Table 5.3 and Table 5.4 respectively.

Table 5.2: Market participation by the smallholder farmers surveyed

Type of market	Vhembe		Capricorn	
	N=60	%	N=60	%
Agro-processors	13	22	4	7
Hawkers	17	28	16	27
Local markets	16	27	23	38
Fresh produce markets	4	7	9	15
Supermarkets	10	17	8	13
TOTAL	60	100	60	100

Source: Survey data

Table 5.3: Overall market participation by commodity

Type of market	Category A: Individual	Category B: Group/Project	Tomato	Cabbage	Potato
Agro-processors	13	4	12	-	4
Local markets	15	24	22	17	2
Hawkers	14	19	13	16	3
Fresh produce markets	9	4	4	7	6
Supermarkets	12	6	8	12	-
TOTAL	63	57	59	52	15

Source: Survey data

Table 5.4: Overall market participation

Type of market	Category A: Individual	Category B: Group/Project	N=120	%
Agro-processors	13	4	17	14
Local markets	15	24	39	33
Hawkers	14	19	33	28
Fresh produce markets	9	4	13	11
Supermarkets	12	6	18	14
TOTAL	63	57	120	100

Source: Survey data

More than 60 percent of the farmers who participated in the group interviews were using spot markets and in most cases were selling to local hawkers and directly to consumers in the surrounding communities. Less than 40% of the farmers interviewed had established growing contracts with agro-processors, fresh produce markets and supermarkets. Some of the interviewed farmers who were not participating in formal markets indicated that they had at one time had contracts with supermarkets and agro-processors, but those contracts had since been terminated due to inconsistency, poor quality and low quantity, as these markets require large quantities of good-quality products on a sustainable basis. Smallholder farmers, particularly those living long distances from town, indicated that they had to face high transportation costs when selling their produce to markets in towns and consequently they preferred to sell in their local communities, as this helped them to minimise transportation costs.

The study found that farmers in the Vhembe district have better access to formal markets than farmers in the Capricorn District (see Table 5.2). Participation by commodity indicates that tomatoes and potatoes are highly marketed to agro-processors such as Tiger Brands and Simba, while cabbages are marketed to local markets. Tomato-producing smallholder farmers in the Vhembe district are better linked to agro-processors such as Tiger Brands, Simba and Agro-Processors of Limpopo (APOL) compared to farmers in the Capricorn district. For example, there are smallholder farmers in the Vhembe district in the Musina, Nwanedi and Tshiombo areas who supply tomatoes to agro-processors such as Tiger Brands and APOL. These farmers have entered into growing contracts with processors and use these contracts to access production credit for production inputs from commercial banks. It was found that in both districts, individual producers are performing well and in a more sustainable way and are able to supply to high-value markets, unlike projects or groups of households on farms who normally depend on informal markets (this is illustrated in Table 5.4).

5.5 AGRICULTURAL MARKETS INTERVIEWED

This section contains a summary of the findings from the interviews conducted at agricultural markets in the Limpopo and Gauteng provinces. Interviews were conducted at supermarkets, the Goseame Fresh Produce Market and the Willard's potato agro-processing company

5.5.1 Supermarkets

The interviews conducted at supermarkets, namely Spar, Shoprite/Checkers, Fresh Mark and Score, revealed that they had entered into production agreements (with no formal legal status) with their approved and preferred suppliers who meet their specifications. These markets demand a certain level of packaging standards, and farmers are required to grade and package their own products, which is a challenge for most smallholder farmers. Shoprite/Checkers do not buy directly from farmers, but instead procure their products from Fresh Mark, and therefore any supplier should approach Fresh Mark. Fresh Mark in turn indicated that they do not discriminate against smallholder farmers, as long as they can produce good-quality products in high quantities on a sustainable basis, and all farmers must be prepared to comply with their specifications.

Score indicated that if a supplier is given a contract, that supplier must be able to supply all the Score supermarkets in the province, which is a huge challenge for a poorly resourced smallholder farmer.

The new Paledi Spar in Ga-thoka Village near Turfloop also procures vegetables from smallholder farmers in the surrounding communities without a formal contract, as long as the quality of the products is good. Paledi Spar is supplied with cabbage, tomatoes, spinach, carrots and butternut by a few smallholder farmers. When asked why they do not enter into formal contracts with smallholder farmers, Spar indicated that they do not wish to bind smallholder farmers to a contract, since they have to face unique challenges such as inconsistency. The Boxer chain of supermarkets in Polokwane and Lebowakgomo also sources vegetables such as cabbage and spinach from smallholder farmers. This supermarket indicated that they are willing to empower black smallholder farmers as long as these farmers can supply high-quality vegetables.

5.5.2 Goseame Fresh Produce Market

The interview conducted at the Goseame Fresh Produce Market revealed that they are always ready to procure from any farmer regardless of whether he/she is a commercial or subsistence farmer, as long as the farmer can come with a sample of every product for inspection. If the quality is found to be good, the farmer may supply to the market without a formal contract being necessary.

5.5.3 Willard's (potato agro-processor)

The Willard's potato agro-processor, which is situated in Johannesburg in the Gauteng Province, showed more interest in procuring from emerging farmers. They indicated that most of the potatoes that come from the Limpopo Province are procured from commercial farmers on a contract basis. They indicated that there is an insufficient supply of potatoes, and they suggested that the LDA should recruit more farmers and assist them with on-farm infrastructure so that they can produce potatoes on a sustainable basis. They emphasised that they are prepared to enter into contracts with emerging farmers as long as farmers can demonstrate commitment and consistency.

5.6 SUPPORT PROGRAMMES IN THE LDA FOR SMALLHOLDER FARMERS

The aim of this section is to present a situational analysis of the support programmes and policies that have been established in the LDA to assist smallholder farmers. Prior to the establishment of democratic rule in South Africa in 1994, agricultural policies were designed and implemented by the apartheid government to provide considerable government support and assistance to white farmers while deliberately putting the black farming sector at a disadvantage. In line with the process of transformation in ensuring that previously disadvantaged farmers have access to resources, the LDA has introduced programmes and policies to benefit smallholder farmers. Such programmes and policies include the Mechanisation Revolving Credit Access Scheme (MERCAS), the Revitalization of Smallholder Irrigation Scheme (RESIS), the Limpopo Agribusiness Development Academy (LADA), the Crop Input Access Support Policy (CIASP), and the Limpopo Agricultural Development Programme (LADEP).

5.6.1 Mechanisation Revolving Credit Access Scheme (MERCAS)

The LDA has instituted the MERCAS policy, which seeks to assist smallholder farmers as far as mechanisation is concerned. The Limpopo Province has over 39 000 hectares of irrigated land and over 600 000 hectares of dry land under smallholder farmers. Currently, less than 40 percent of this land is being optimally being farmed due to lack of tractor power. A tractor survey in the Limpopo Province revealed that only around 400 tractors are in the hands of small-scale farmers. These range from 28 kW to 70 kW, but in different body and mechanical condition. From the survey it was found that the number of tractors was not sufficient to cover the number of poorly resourced farmers who depend on farming for their livelihoods (LDA, 2008).

The LDA devised the MERCAS policy to subsidise previously disadvantaged farmers so as to enable them to purchase tractors and other necessary equipment such as planters, ploughs and trailers. Through the MERCAS policy, the LDA subsidises farmers with 50 percent of the purchasing price of mechanisation equipment. During the 2008/09 financial year, R18 million was allocated to the scheme and 110 farmers benefited by being able to purchase tractors and other necessary farm implements. Of the 110 farmers who benefited

from the scheme, 61 percent were commercial farmers who made their own cash contribution (50% deposit), while the remaining 39 percent were able to access finance from ABSA Bank by virtue of collateral. Although the main objective of the scheme is to benefit previously disadvantaged smallholder farmers, this objective has not yet been met, since the majority of farmers who are benefiting from the scheme are commercial farmers.

The majority of poor farmers on communal land are excluded from the scheme because they do not possess collateral. The majority of smallholder farmers qualify for the 50 percent grant from the LDA but do not qualify for a 50 percent loan from ABSA Bank, mostly because they produce on small communal plots under dry land conditions. The selection criteria set by ABSA Bank include collateral, large-scale production, ability to repay the loan (business plan with positive cash flow projections), and good on-farm infrastructure such as water and irrigation facilities.

It is a well-known fact, needing no further debate, that poorly resourced farmers do not possess such resources. International experience has shown that if the government intervenes directly to assist the poor through subsidised credit, more often than not such credit fails to reach its intended beneficiaries. Within the priority sectors, large and more influential borrowers have tended to benefit most. In 1985, Tanzania introduced a pilot project whereby private individuals, as well as villages and co-operatives, were allowed to own tractors on a credit basis. Owners were required to make a down-payment on each tractor purchased, equal to half the value of the tractor (Ishuza, 1991). This resulted in tractor ownership being limited to a relatively wealthy minority.

5.6.2 Revitalisation of Smallholder Irrigation Scheme (RESIS)

The LDA has also committed itself to revitalising 126 small-scale irrigation schemes and providing the infrastructure that is necessary for previously disadvantaged farmers to become successful commercial farmers. The LDA has invested more than R21 million to revitalise these schemes. Some of these irrigation schemes are not performing optimally due to lack of comprehensive agricultural support services.

However, there are other schemes that are performing well, such as the Makuleke irrigation scheme, which has been revitalised with the assistance of the strategic partner. The challenge facing the LDA is to ensure that all schemes become successfully revitalised.

5.6.3 Limpopo Agribusiness Development Academy (LADA)

The LDA has also established the Limpopo Agribusiness Development Academy (LADA) to provide vocational short courses, e.g. in agribusiness management and marketing management, for farmers and entrepreneurs, free of charge. The training is provided at two agricultural colleges, namely Madzivhandila in the Vhembe district and Tompi-Seleka in the Sekhukhune district. The LDA should be applauded for instituting such an initiative, as this academy is benefiting most of the farmers in the province.

5.6.4 Crop Input Access Support Policy (CIASP)

Due to the high cost of production inputs and limited access to credit by smallholder farmers, the LDA found it necessary to establish a crop input access support policy in 2008. This policy subsidises previously disadvantaged farmers with 50 percent of the total input production cost. This policy emphasises the development of smallholder agriculture in order to make the smallholders more commercial in their production by using improved inputs and producing for the market. The main objective of the policy is to maximise crop farming land use and increase crop yields and profitability by facilitating access to production inputs. The input subsidy policy is demand-driven, with previously disadvantaged farmers being allowed to apply for assistance based on their need for production inputs (LDA, 2008).

5.6.5 Limpopo Agricultural Development Programme (LADEP)

The Limpopo Agricultural Development Programme (LADEP) is a bilateral programme between the governments of Finland and South Africa. LADEP was introduced in 2002 with the intention of assisting poor smallholder agricultural projects in the province with on-farm infrastructure and production inputs. The main objective of the programme was to assist these projects with once-off resources so that they could remain sustainable and eradicate poverty and also contribute to food security in the province. The programme has

assisted 27 smallholder projects since 2002. Of these, only 16 projects are still operational, six projects are no longer operational due to incomplete infrastructure. Three projects ended up collapsing due to poor financial management, while the other two were vandalised by criminals who stole pumping machines, transformers and electric cables. At the time of this study the LADEP officials, together with officials from the LDA, were planning to come up with a turn-around strategy to ensure that the projects could be assisted prior to the project being phased out in 2009.

5.7 SUMMARY AND CONCLUSION

The main focus of the survey was to identify the constraints confronting smallholder farmers in accessing high-value markets. This study revealed that in both districts, there are two groups of smallholder farmers – those who are more prosperous and those who are less prosperous – and these two groups of farmers face different constraints. However, those who are more prosperous constitute the minority group (15%), while the majority (85%) are less prosperous. From the selected commodities, the Vhembe district has more active smallholder vegetable projects that are better linked to markets than the Capricorn district.

This study also revealed that there are those smallholder farmers who are more prosperous in terms of on-farm infrastructure such as equipped boreholes and irrigation systems, and there are those who are less prosperous or poorly resourced. For example, the more prosperous group utilises centre pivots, drip irrigation and sprinkler systems, while the less prosperous group uses flood irrigation. A higher proportion of households in the more prosperous group own tractors and vehicles (bakkies), while those who are less prosperous have to hire tractors to cultivate their farms and bakkies to market their produce. Most of the households that are more prosperous are those that operate individually, while those that are less prosperous mostly operate in groups.

Based on the survey in this study, the participation of smallholder farmers in high-value markets is unsatisfactory. There are relatively few direct linkages between smallholder farmers and supermarkets or processors. The majority of sales by farmers are at either the local market or the farm gate level, and most of these farmers do not have access to market

information. Few smallholder farmers make sales to supermarkets and agro-processors. A minority of smallholder farmers have access to basic production equipment and infrastructure. A range of impediments to participation in high-value markets was identified, including lack of access to sufficient and productive land for expansion, sufficient water, modern irrigation systems, tractors, transport logistics, pack-houses and value-adding facilities. Such infrastructure is critical if smallholder farmers are to access high-value markets. There is a relatively low level of participation among farmers in collective action, especially at the production and marketing levels. Urgent attention is needed to help smallholder farmers to benefit from lucrative markets.

This chapter also highlighted the existing agricultural policies and programmes aimed at agricultural and rural development in the Limpopo Province. The good work done by the LDA in introducing programmes and policies intended to benefit smallholder farmers in the province was noted. The challenge confronting the LDA is to guard against allowing the elite to benefit from these policies at the expense of the poorest farmers in the province. International experience has shown that programmes and policies designed specifically for poor smallholder farmers in many cases do not reach these farmers. The success of these policies and programmes will require the mutual support and co-operation of the private sector, financial institutions, farmers' organisations, the community, and all other stakeholders concerned with the development of the provincial agricultural sector.

CHAPTER 6

VALUE CHAIN ISSUES AND SMALLHOLDER POTATO FARMERS IN MAKULEKE IRRIGATION SCHEME

6.1 INTRODUCTION

Many scholars use the terms “supply chain” and “value chain” interchangeably. In order to ensure the coherent use of these definitions, these two concepts are explained more clearly in this chapter. International experience has shown that smallholder farmers are still excluded from participating along the value chain and the majority of smallholder farmers are not familiar with the concept of the value chain and its consequences. Smallholder farmers need to understand the value chain approach and their inclusion in the value chain so that they can recognise the opportunities for inclusion in the value chain. This chapter starts by articulating the concept of the agricultural value chain in relation to smallholder farmers and also the way in which smallholder farmers can be integrated along the value chain. The Makuleke case study is also presented in this chapter.

In this intensely competitive world of changing markets and technologies, agriculture is faced with new demands, making it difficult to remain sustainable. International experience has shown that the value chain approach is one business strategy that can be used to adapt to these changes, since producers, processors and marketers become interdependent and work together in the chain, discussing challenges and sharing information. The expansion of agro-processors, fresh produce markets and supermarkets is to a large extent posing a major challenge to smallholder farmers in their efforts to become competitive in the market arena. The buying practices of supermarkets and large processors in terms of quality and safety standards, packaging and volumes seriously challenge small producers, who are threatened by exclusion from the agricultural value chain if they cannot take part in this new type of market. The chains thus require assurances from suppliers to ensure that all safety and health standards are met and surpassed, and that small-scale farmers are not excluded from complying with these standards if they are to compete successfully in the agricultural value chain.

6.2 AGRICULTURAL VALUE CHAIN VERSUS SUPPLY CHAIN

Hobbs and Young (1999) were amongst the first to clearly distinguish between these terms in the economic literature. As they defined the term, supply chain refers to the entire vertical chain of activities – from production on the farm, through processing, distribution, and retailing to the consumer. The supply chain is the mechanism for transmitting signals from consumers to food manufacturers, as well as delivering products from the farm to the consumer’s table. The major components of a supply chain are input supply, production, processing or manufacturing, and retailing. (Regmi & Gehlhar, 2005: 2).

The value chain is a particular form of supply chain, i.e. the term ‘value chain’ refers to a vertical alliance or strategic network between a number of independent business organisations within the same chain. The value chain approach places particular emphasis on the co-ordination of different actors along the chain of activities involved in the production, processing and distribution of products. It highlights the linkages between enterprises, how their activities are co-ordinated, and the role of lead firms in determining what is to be produced, how and by whom (Humphrey, 2005:1). The value chain is not the same as the supply chain. A value chain is about linkages generating value for the consumer, while a supply chain is about processes of moving and transforming commodities into products from producers to consumers. While a value chain is about generating value for the consumer, a supply chain is about logistics (ADB, 2005:21). The differences between supply chain and value chain are illustrated in Table 6.1.

Table 6.1: Supply chain versus value chain

Attributes	Supply Chain Approach	Value Chain Approach
Communication	Limited	Highly intensive
Value focus	Cost/Price	Value/Quality
Product	Commodity	Differentiated product
Relationship	Supply push	Demand pull
Organisational structure	Independent	Interdependent
Philosophy	Self-optimisation	Chain optimisation

Source: AAFC (2004)

There is a need to move from the traditional supply chain approach to a value chain approach where producers and processors are able to compete nationally and internationally. The basic characteristic of a value chain is market-focused collaboration in that different business enterprises work together to produce and market products and services in an effective and efficient manner. The value chain allows businesses to respond to the marketplace by linking production, processing and marketing activities to market demands (AAFC, 2004).

The value chain approach establishes co-ordination amongst its participants by moving beyond spot market transactions and utilising contracts, vertical integration, supply networks, alliances, and other forms of co-ordination. Lummus (2004) differentiated between co-ordination in spot markets and in modern value chain partnerships. These differences are summarised in Table 6.2. Unlike in a spot market, in order to function effectively, these dominant players organise production, processing, logistics and trade, and distribute products to the final consumer.

According to Hobbs *et al* (2000: 131) value chain is a special strategic network of independent organizations; demand driven rather than supply-driven form; requires the commitment of all participants in controlling the factors affecting product quality and consistency; responsive to changing consumer needs; offers security in doing business with other members of the chain; involves high levels of trust between parties to the alliance. In order to achieve more preferable position in these changed market conditions, the members of agri-food chain have to establish effectively managed value chain. According to Hobbs *et al.* (2000:132) the effective value chain management might include follows: (i) entering into consultations and negotiations with other organizations related to market expansions; (ii) sourcing products from businesses that are not part of the value chain; (iii) encouraging the development of new products; (iv) fostering cooperation in the value chain.

Table 6.2: Key attributes of two extreme types of co-ordination

Attributes	Traditional spot markets	Value chain partnerships
Term	Short-term (individual) transactions	Long-term relationships
Decision indicator	Made on price	Made on value
Partners	Many	Fewer selected
Interdependence	Low	High
Production	Haphazard	Order-driven
Communication	Limited	Open
Co-ordination	Limited	Strong (or total)
Specific investments	Avoided	High(er) level
Information	Proprietary	Shared
Delineation	Clear business boundaries	Continuous delineation
Improvement	Unilateral initiatives	Continuous joint activities
Activities	Separate	Engaged
Decision-making	Role of bargaining power	Joint decision-making
Incentives	Adversarial attitudes	Common, mutual attitudes
Goals	Disharmonious (conflicting) goals	Compatible goals
Opportunism	Behave opportunistically	Mutual trust
Acting	Act only in own interest	Act for mutual benefit
Orientation	Win-lose	Win-win

Source: Lummus (2004)

6.3 INCLUSION OF SMALLHOLDER FARMERS IN THE VALUE CHAIN

Since smallholder farmers are familiar with traditional spot markets, sometimes they may feel nervous or reluctant to be integrated into the supply chain. Smallholder farmers avoid becoming members of a supply chain because they fear losing their independence, as well as the possible loss of existing relationships, and they have a culture of familiarity with spot market transactions (Masuku, 2003). The spot market transaction is based on the idea of increasing the existing pie, while the supply chain culture is based on sharing the benefits of the pie. Therefore there is a need to help smallholder farmers understand the future benefits that can exist in the chain in the long run. The benefits of the value chain might take some time to trickle down to the poor smallholder farmers, since there are many partners involved in the chain (although this might be country-specific or region-specific depending on the availability of resources). Smallholder farmers need to

understand the value chain approach and their role and the role of other actors in the value chain. This can be done through workshops, presenting opportunities for inclusion in the value chain and explaining how things might change in the long run. The inclusion of smallholder farmers in the value chain will need comprehensive support from public and private institutions. This was also emphasised by Vorley and Bienabe (2007) (see Figure 6.1). In summary, the figure indicates how the inclusion of smallholder farmers in the value chain can benefit them in the longrun. The figure start by showing the drivers of value chain under current situation and how things might change in the future for farmers when they are included in the value chain. It also shows the need to apply different strategies such as institutional arrangements and government policies that can support farmers to become part of the chain. The policy environment should be conducive to enabling smallholders to partake in the agricultural value chain.

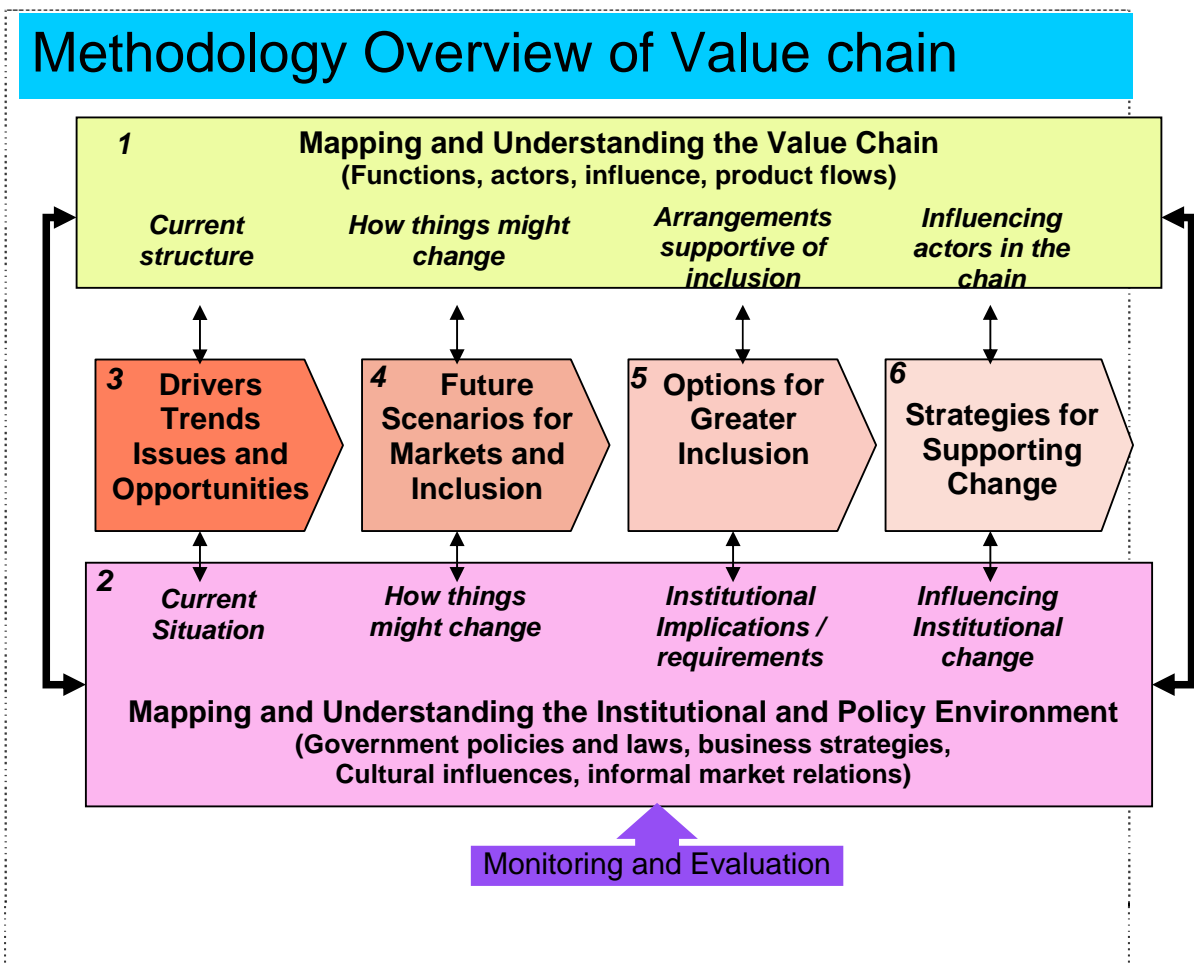


Figure 6.1: Mapping the value chain
Source: Adapted from Vorley and Bienabe (2007)

6.3.1 Production capacity

Smallholder farmers will have access to markets in the value chain provided they have products to sell without compromising quality and quantity. Generally, the production of smallholder farmers is unsatisfactory when it comes to meeting the market demand. The volume and quality are unlikely to convince the customers, especially those who are buying the products with the intention to sell them. Several studies suggest the consolidation of production by smallholder farmers to meet economies of scale. However, the challenge is that the majority of the smallholder farmers are geographically dispersed and cluster their production when the marketing of products is difficult. In addition, when several standards have to be adopted at the farm level, the necessary changes in production and post-production activities required for a modern agri-food system are more difficult to implement and monitor when large numbers of farmers are fragmented. Farmers' organisations, co-operatives and associations could take the lead in addressing the co-ordination problems faced by enterprises in dealing with farmers (ADB, 2005).

6.3.2 Transport logistics support and the cold chain

Logistical infrastructure such as the cold chain maintains the quality of agricultural products. Quality no longer demands a premium in the markets – it has become a prerequisite to enter the market. However, it should be noted that quality is determined on the farm, and the logistical process (cold chain) cannot improve it but can only maintain it (Ferreira, 2006:10). Vegetables are highly perishable and require good packaging techniques, cold storage, and transportation logistics (cold chain).

The shelf-life of fresh produce is considerably extended if the crop is cooled immediately after harvest and if the optimal low temperatures are maintained along the supply chain. In addition, retailers are increasingly favouring producers who can extend and maintain the cold chain right back to the harvesting point. To meet this requirement, the smallholder farmers need to have logistical infrastructure on their farms such as pack-houses, refrigerated transportation, cold-storage facilities, etc. Poor smallholder farmers do not have access to market infrastructure such as cold storage and refrigerated transport to keep their products at high quality after harvest in order to capitalise on the lucrative markets that offer good prices for quality products.

Lack of access to facilities such as post-harvest storage and refrigerated transportation constitutes a barrier to entry to agricultural markets since the emphasis of the buyers is more on quality. Transportation problems cause quality losses and late delivery, leading to lower prices, which is regarded as the biggest problem faced by emerging farmers (Louw *et al.*, 2004).

According to Reardon and Timmer (2007:32), a related development is the trend towards logistics improvements to accompany procurement consolidation, and a shift in supply organisation to implement those improvements. To defray some of the added transport costs that arise with centralisation, supermarket chains have adopted (and require that suppliers adopt) best-practice logistical technology. This requires that supermarket suppliers adopt practices and make physical investments that allow almost frictionless logistical interface with the chain's warehouses. These requirements by retailers imply that more capital is needed for producers to secure contracts to supply lucrative markets, thereby excluding farmers who do not have access to funding.

6.3.3 Consistency by smallholder farmers along the chain

Immediately after linking smallholder farmers to markets there is a need to ensure that farmers are consistent along the chain. Agro-processing industries and fresh produce markets would prefer to buy from farmers that are consistent. Most of small-scale farmers are not consistent in terms of producing products and supplying them to fresh produce markets and agro-processing industries.

According to Louw *et al.* (2004), many emerging farmers can only deliver produce to fresh produce markets for two or three months of the year and cannot achieve continuity on the market. The general findings are that in order for smallholder farmers to supply markets they need a certain size of production, high-quality products, a certain volume and type of product, and consistency in quality and supply – requirements they find difficult to meet consistently (Louw *et al.*, 2007). In justifying these findings, the reasons for lack of inconsistency by small-scale farmers may arise from lack of comprehensive agricultural support and high transportation costs since large fresh produce markets and agro-processing industries are based in urban areas.

The challenge is to empower smallholder farmers to produce high volumes of good-quality products on a consistent and sustainable basis. This requires comprehensive agricultural support services such as access to land, on-farm infrastructure, credit, and advisory support. Retailers are not taking any chances when it comes to their quality standards. They also employ full-time inspectors at delivery bays to ensure that their stringent standards are upheld for every consignment before accepting it. Supermarkets specify exact quantities of produce that they wish to purchase. Suppliers must deliver the correct quantities, at the pre-agreed quality and at the right time. As a result of this screening process, some producers find themselves with rejected consignments that at best may be sold at much lower prices on the open fresh produce markets (Louw *et al.*, 2004).

6.4 OVERVIEW OF THE MAKULEKE IRRIGATION SCHEME AND ITS STRATEGIC PARTNER

6.4.1 Introduction and background

The strategic partnership model is becoming prevalent in the process of land and agrarian reform in the Limpopo Province. This model involves black people who obtained land rights or who are land reform beneficiaries, together with mostly commercial farmers who previously owned the land, or companies. The strategic partnership model locks in the expertise of white commercial farmers or companies with the aim to empower emerging farmers (Mayson 2003:1). This occurs in projects that require complex operational requirements, high-value operations and large operational capital needs, which are normally beyond the capacity of the beneficiaries (LDA, 2008:13).

The Makuleke Irrigation Scheme is located in the Vhembe district, in the Thulamela municipality. The scheme comprises 40 beneficiaries who are engaged in crop farming. The Limpopo Department of Agriculture (LDA), through the Revitalisation of Smallholder Irrigation Scheme (RESIS), has assisted the irrigation schemes with infrastructural development. Makuleke Irrigation Scheme is one of the RESIS participants. The project was initiated in 1985 with the main objective of producing food and creating jobs for people in Makuleke and the surrounding communities.

The project started with 52 beneficiaries on 240 hectares, mainly producing maize, tomatoes, and cabbage. However, the scheme failed to achieve its intended objectives and subsequently collapsed in 1998.

6.4.2 Revitalisation of the scheme

The project was re-established in the year 2000 and started with a selection process mainly focusing on the unemployed who had to work full time in the irrigation scheme and undergo training at the same time. In the selection process, youth and gender representation was considered as an important criterion. Each beneficiary was allocated an average of five hectares. The project confronted challenges such as lack of on-farm infrastructure, and it was at this stage that the LDA intervened through the RESIS programme. To address the pace of implementation, the RESIS ‘Recharge’ Programme was launched in June 2005 by the LDA. An amount of R84 million was allocated by the LDA to focus on the installation of water-saving in-field irrigation technology on 23 priority irrigation schemes (Makuleke Irrigation Scheme being one of the schemes). In order to fast-track the process, the “turnkey” approach (involving the design and construction of irrigation technology by one service provider) was used for the implementation of the RESIS programme. The LDA provided 20 centre pivots and bulk infrastructure including perimeter fencing, a pump-house, fertiliser mixing machine, bulk water supply system and extension support services to the Makuleke Irrigation Scheme.



Figure 6.2: Potatoes irrigated with centre pivots provided by the LDA

6.4.3 Situational analysis

The enterprise started production in 2007 with 40 beneficiaries producing potatoes on 240 hectares of land. Each beneficiary occupies a minimum of five hectares and a maximum of 10 hectares of land. The enterprise has established a three-year partnership deal (starting in 2007) with a strategic partner, the AWC Creighton Company. The strategic partner intends to build the capacity of the farmers in terms of technical aspects such as ploughing, fertilisation and disease and pest control. The strategic partner has also contributed farm equipment such as ploughing equipment, spraying machinery, harvesters, and mobile grading and sorting machinery. The prime advantage for farmers in this partnership is that they will share the profits with the strategic partner and, in addition, farmers will gain exposure to modern farming methods.

The strategic partner has assisted the scheme with market access and convinced the well-known world-wide agro-food processor, Simba, to come on board, and a market contract has been finalised. Simba, a company popularly associated with potato crisps in South Africa, has offered emerging farmers in the Makuleke Irrigation Scheme a market for their potatoes. Approximately 240 hectares are under potato production and a portion of 150 hectares has been set aside for this deal. About 6 000 tons of potatoes have been produced and supplied to Simba, with the remaining produce from 90 hectares being sold to other markets.

6.4.4 Financial implications of the strategic partnership

The first potato crop was planted in March 2007, with the strategic partner providing all the production inputs. The strategic partner invested more than R8 million for production costs in the scheme and also supplied the scheme with farm equipment such as planting and spraying equipment, harvesters, and mobile grading and sorting machinery. The scheme's potatoes were harvested in August 2007 and marketed to the Isando factory of Simba South Africa as per the contract agreement between Simba and the Makuleke Irrigation Scheme. The total production was 8 420 tons, and this yielded a total income of R12 173 826. The strategic partner recovered the production costs after harvest when the crop was sold.

With production costs of R8 705 356, the distributable profit amounted to R3 468 470 (see Annexure 1). The strategic partner was entitled to a 60 percent share while the farmers received the remaining share of 40 percent (see Figure 6.3).

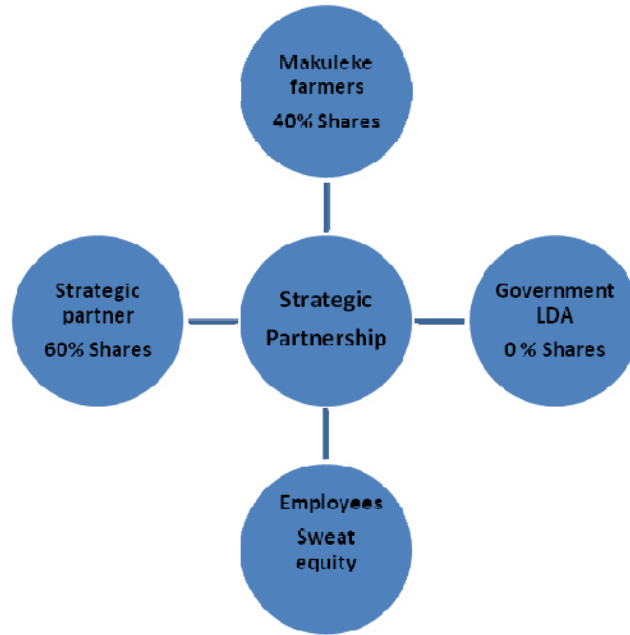


Figure 6.3: Strategic partnership model

Before the beginning of the season, farmers owed the Eskom electricity provider R47 469 and also had to build toilet facilities around the farm at a cost of R100 000. Thus, an amount of R147 469 had to be deducted from the 40 percent share (R1 387 388) to which the farmers were entitled. This means that the total distributable profit to the Makuleke farmers was R12 39919. The profit per hectare was R5 323. Thus on average, on a five-hectare plot, a farmer received R26 615 (see Annexure 1). The profit-sharing for both the strategic partner and the farmers is subject to change to 50 percent for the remaining two years of the three-year agreement.

6.5 SUMMARY AND CONCLUSION

Strategic partners or private entities, as already highlighted by case study findings from the investigation into the Thohoyandou Spar by Louw *et al.* (2004), can play a crucial role in integrating smallholder farmers into commercial markets in the agribusiness value chain. The Makulele Irrigation Scheme's strategic partner transferred skills to the farmers by exposing them to the potato supply chain (production input application, disease and pest control, harvesting and washing, grading and sorting, packaging, and exposure visits to Simba to learn how potatoes are processed into snacks).

This venture has created employment opportunities for the people of Makulele and the surrounding communities. The collective action by the farmers and the collaboration with the strategic partner has yielded benefits for the farmers. The farmers have benefited by selling their products directly to Simba (agro-processor) at a higher price, bypassing the middlemen. The farmers interviewed indicated that their incomes had risen beyond what they had been prior to entering into the contract. The factors attributed to the successful participation of the farmers in the Makulele Irrigation Scheme in supplying Simba with potatoes include: good governance; sharing of production costs; commitment by both parties; access to technical advice; integration into necessary support services; and transparency and accountability. The partnership involves properly co-ordinated linkages between the farmers, the strategic partner, government extension staff and Simba. All of these are working together harmoniously in promoting the Makulele farmers into the potato supply chain. Every actor is playing a crucial role in the sustenance of the supply chain.

International experience has shown that the success of many contracting projects, especially in developing countries, is influenced by the role of the state. The success of the project can be influenced by the state with respect to policies that affect the development and location of infrastructure and preferential contracting agreements. The role of the state needs to be at the design stage and, if the government is a partner, it should provide infrastructure support at the very least (Kirsten & Sartorius, 2002).

High capital costs can be overcome through working in collaboration: the farmers provide land, water, and irrigation infrastructure (centre pivots) while the strategic partner supplies production inputs and mechanisation. The role of the LDA's contribution of irrigation infrastructure in the success of the Makuleke Irrigation Scheme should not be ignored, and this good model could be replicated by other provinces in South Africa, as strategic partners will be more likely to invest in enterprises that have good on-farm infrastructure.

Within this interaction, both parties can benefit in return for their participation. The strategic partner receives reliable fresh produce supplies from the emerging farmers while providing the community with production inputs and farm implements, with both parties sharing the net farm income after harvest. The project discussed is having a positive impact on the agricultural industry, since the production of potatoes in the Limpopo Province is creating employment opportunities through forward and backward linkages. The project has a comparative advantage in the Vhembe district, since there are no major competitors in the area and the district, or in the neighbouring Mopani district. In 2007, approximately 500 people were employed in the scheme from production until harvest.

According to PSA (2002), there is a high demand for potatoes by agro-processors and fresh produce markets while the supply side is very low and inconsistent. This shows that there is a potential market from which smallholder farmers can benefit, particularly if given assistance. Economic contribution to the local economic development of the surrounding communities (multiplier effect) will continue to be realised if the scheme remains sustainable. The question that always arises is what will happen if the strategic partner exits this strategic partnership contract. Will this scheme continue to produce and remain sustainable? The challenge confronting the LDA is to continue to closely monitor the scheme to ensure that it does not collapse in the event of the strategic partner's exit.

CHAPTER 7

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The previous chapters introduced the research problem and the objectives of the study, the constraints facing smallholder farmers in Africa, as well as the descriptive profile of smallholder farmers operating in the districts under discussion. The production and marketing constraints facing smallholder farmers in the study area were also presented, followed by a discussion of the agricultural value chain and smallholder agriculture. On the basis of the findings in the two districts in question, this chapter provides recommendations and conclusion on the constraints facing smallholder farmers in the Limpopo Province.

The study found that smallholder farmers find it difficult to compete in the agribusiness value chain, because they face unique constraints and do not have access to comprehensive agricultural support services. Supporting smallholder farmers in their quest to benefit from their linkages to markets becomes a burning and complex issue. Marketing avenues for smallholder farmers appear to be more dependent on the existence of land, irrigation water, on-farm infrastructure, mechanisation, transport, and other necessary support services, which determine the opportunities to produce and to secure earnings, than on the market characteristics of the markets. Several issues need to be addressed when considering the opportunities for producers to improve their connection to markets and the potential effect on poverty alleviation. These issues are the production and marketing decision-making process and the availability of resources.

Lacking capital, on-farm infrastructure, training and management skills, it is almost impossible for small farmers to successfully participate in agricultural value chains. The inclusion of smallholder farmers in the value chain will require comprehensive support from public and private institutions. The policy environment should be conducive to enabling smallholder farmers to partake in the agricultural value chain. Buyer-driven chains are more regulated and are characterised by high levels of governance and long-term vertical co-ordination between producers, supplier-integrators, processors and

retailers. As a result, farmers require technology, financial capital, human capital, and organisation to avoid being excluded from the value chain

7.1 ENABLING SMALLHOLDER FARMERS TO BENEFIT FROM HIGH-VALUE MARKETS

It has to be acknowledged that efforts by the Limpopo Department of Agriculture (LDA) to commercialise smallholder farmers through its policies and programmes, such as the Mechanisation Revolving Credit Access Scheme (MEREKAS), Crop Input Access Support Policy (CIASP), Limpopo Agricultural Development Programme (LADEP), Limpopo Agribusiness Development Academy (LADA) and Revitalisation of Smallholder Irrigation Scheme (RESIS) have benefited some, albeit very few, smallholder farmers. These policies have not been fully beneficial to all due to budget constraints and have not sufficiently addressed the constraints facing the majority of smallholder farmers in the rural areas of the province. These policies have limited funds to cover a large number of farmers and therefore the LDA should lobby for more funds from the national government, private sector and international institutions. The same applies to national policies such Land Redistribution for Agricultural Development (LRAD), Agricultural Black Economic Empowerment (AgriBEE) and Comprehensive Agricultural Support Programme (CASP). Only a few rural farmers have benefited from these transformation policies. To strengthen the relationship between smallholder farmers and market partners, the government and private sector should intervene in assisting resource-poor farmers to have access to land and finance, and by investing in on-farm and off-farm infrastructure, research and extension, and human capital. A single approach would not suffice, but rather all resources and support services need to be implemented together as a package.

7.1.1 Access to land

The study found that most of the farmers farming on communal land only have access to small plots less than five hectares in size. The study found that in some group-owned projects, there are many households of more than 20 individuals in areas of less than 10 hectares, which makes it difficult to commercialise these farmers. Only 38 percent of farmers from the survey indicated that they had access to land of more than 10 hectares in size. Smallholder farmers should be allowed to access productive land through land

programmes such as LRAD. Strengthening property rights is another way in which the government can intervene indirectly to assist poor smallholder farmers to access credit. Many scholars have found that land titles have a positive effect on access to credit, since land can be used as collateral in a well-developed credit system. By facilitating access to credit, land titles have had a positive effect on the level of investment and output and on the market values of land.

7.1.2 Investing in on-farm infrastructure

CASP should not only focus on land reform projects, but also on communal and privately owned farms. Only 14 percent of farmers have benefited from this programme. The study found that there are some communal and privately owned individual farms that can flourish if they are given assistance in the form of water and irrigation systems. In implementing CASP, the LDA should guard against incomplete projects or partially implemented projects. The best approach in implementing CASP is to ensure that the projects being approved for implementation are completed within the same financial year and do not overlap to the next financial year, as this will create some backlog in the department and put the farmers at a disadvantage. CASP should also be used to complement the LADEP and RESIS programmes in assisting irrigation schemes with irrigation infrastructure. With reference to the Makuleke case study, strategic partners are more likely to partner with smallholder farmers if on-farm infrastructure is available. Therefore, the LDA should continue investing in on-farm infrastructure and lobby for strategic partners that can work in collaboration with smallholder farmers.

7.1.3 Access to finance for production inputs

The majority of smallholder producers experience difficulty in obtaining credit for production inputs. Almost 65 percent of the interviewed farmers indicated that they lacked access to sufficient production inputs. The LDA's CIASP should be used assist poor smallholder farmers to purchase production inputs. There is also a need to ensure that smallholder farmers have access to production loans to expand the production base. International experience has shown that private institutions become more involved in rural development when government becomes committed.

There are many ways in which government can intervene indirectly to ensure that smallholder farmers have access to credit. Some alternatives may include:

- (i) **Providing information and recommending viable enterprises to lending institutions.** Government-created institutions may help poor smallholder farmers to access credit by providing information to lending institutions. For example, extension officers and agricultural economists may recommend viable agricultural projects to lending institutions such as the Land Bank whenever such motivations are needed, because agricultural extension officers know the farmers and the products they produce.
- (ii) **Capacitating smallholder farmers with production and financial management skills.** It should be noted that one of the reasons why financial institutions fail to offer loans to smallholder farmers on a sustainable basis is that they consider smallholder farmers to be incompetent because they are not capacitated with the skill to utilise such loans efficiently. Government-created institutions may be helpful in capacitating smallholder farmers with production and financial management skills. This will help farmers to utilise their loans more effectively and efficiently. If lending institutions can discover that smallholder enterprises are more sustainable and are able to repay loans, there is no doubt that they will continue providing smallholder farmers with financial assistance.
- (iii) **Helping smallholder farmers to secure market contracts.** Government officials (extension officers, agricultural economists, marketing officers) can negotiate market contracts with markets and agribusiness firms, and these contracts can serve as collateral for poor small-scale farmers to access credit. Despite the existence of tangible collateral, some institutions are motivated to provide loans to farmers if they have secured official written contracts from markets or agro-processing industries. Government officials may assist by linking farmers and negotiating such contracts on behalf of smallholder farmers. Contract farming, as an institutional innovation, may also help to reduce transaction costs.

7.1.4 Access to mechanisation

In South Africa, mechanisation has been identified as one of the areas that has not received enough attention in the past, especially in the former homeland areas. The LDA should be applauded for establishing the MERECAS mechanisation scheme. However, the scheme is benefiting those farmers who own private farms and who are producing for commercial purposes, and excludes the majority of poor farmers due to its policy requirements. These progressive farmers benefit because they are able to afford the 50 percent deposit, they have land as collateral, and they have the ability to repay the loan, since they are already in the business. Taking into account the fact that few smallholder farmers are able to meet the minimum deposit and collateral requirements for purchasing mechanisation, the scheme should operate purely on a new financial approach for the sake of poor smallholder farmers, particularly those on communal land. For instance, it has been found that in certain communities, farmers depend on hiring one tractor, which is detrimental to their operation, particularly during periods of high demand for such services in rainy seasons. The scheme should also allow other entrepreneurs who do not necessarily own farms, but who possess equipment such as tractors, to service poor smallholder farmers within their community and the surrounding communities.

7.1.5 Extension support services

The study found that most extension officers are criticised for not doing enough, for offering irrelevant technical advice, and for not monitoring the implementation of the advice given. Fifty-six percent of the farmers interviewed complained about the poor services being received from extension officers. It should be emphasised that farmers can best be reached by well-trained and knowledgeable extension officers within a well-managed extension service using a participatory approach. Kirsten (1994:299) contended that extension programmes are in many cases designed with the attitude that “we think we know what the farmers want”. This approach is not benefiting smallholder farmers, since they are not involved in planning and decision-making.

Suggestions from smallholder farmers should be taken into account in planning and executing extension services aimed at addressing their challenges. Smallholder farmers are able to identify and prioritise their problems, and they possess some knowledge that is

relevant to finding solutions. The extension support service in the Limpopo Province, as in many developing countries, is not effective due to poor public research systems, lack of technical expertise, and limited resources. The new extension recovery plan of the National Department of Agriculture (NDA) should be able to address these kinds of constraints so that extension officers can become competent in their field of operation.

7.1.6 Investing in human capital

From the survey, 35 percent of farmers revealed that they had received training in production skills, while only four percent had received training in marketing management. A total of 62 percent acknowledged that they had practical experience in farming with vegetables, and the only training they may need is financial management and marketing management. From the survey, it is evident that smallholder farmers need to be capacitated with financial, recordkeeping and marketing skills in order to become successful agricultural entrepreneurs. Training farmers in financial management can provide the necessary skills to keep records and accounts, and will strengthen the capacity of farmers to make rational decisions in the business arena. When seeking to improve agribusiness skills for smallholder farmers, alternative models need to be explored beyond traditional agricultural extension approaches. The study also found that the majority of the farmers do not really understand the concept of the value chain approach. The challenge with LADA is also to capacitate farmers with an understanding of the agricultural value chain; to inform farmers why it is necessary to adopt the value chain approach, and to emphasise the opportunities that will arise due to the adoption of the value chain approach.

7.2 MARKETING STRATEGIES THAT CAN IMPROVE MARKET ACCESS FOR SMALLHOLDER FARMERS

7.2.1 Access to market information

Lack of access to market information is one of the major constraints facing smallholder farmers in rural areas. Market information should be disseminated to smallholder farmers on a regular basis to ensure that they are always updated about the changes in the market arena. Extension agents working in collaboration with economists should play a leading role in cascading market information to smallholder farmers.

7.2.2 Taking advantage of rural markets

It is not always necessary to focus only on long-distance markets, especially when dealing with smallholder farmers. Since the majority of the small-scale markets are poor and located in rural areas, before linking them to urban markets it would be economically feasible to link them to local markets, as this will help to minimise transaction costs. Although local markets also require products of good standard, their needs may be better met than those of urban markets. The spread of supermarkets to local towns also offers opportunities to farmers who are market-oriented. An effective strategy may be to negotiate markets with local supermarkets and fresh produce markets. Another alternative is to negotiate markets with government institutions. For example, in the Limpopo Province, small-scale farmers are able to supply government institutions such as hospitals and correctional services institutions at negotiated prices. It is only when local markets are saturated that urban markets should be approached.

7.2.3 Commodity groups

Grouping farmers into commodity groups makes it easier to access markets and also minimises transaction costs. It can be advantageous to organise small-scale farmers into commodity groups, because they are able to achieve economies of scale when marketing their products. Such commodity groups can serve a number of functions such as taking joint responsibility for credit, and arranging for the delivery of inputs and the collection of crops after harvest. Formally organised groups can provide suitable units for the delivery of training and extension advice.

Commodity associations have the potential to secure better terms of trade such as better sourcing prices, lower transaction costs, and access to training and other services. The commodity approach taken by the LDA as one of its strategies to help smallholder farmers to access lucrative markets is not being successfully implemented and is not yielding the expected results. For example, the study found that most smallholder farmers are members of the Limpopo Tomato Growers' Association (LTGA), but they are not benefiting from this membership.

7.2.4 Establishing fresh produce markets and agro-processing industries in rural areas

The majority of the farmers in the Limpopo Province supply their produce to fresh produce markets in the Gauteng Province and consequently face high transaction costs. Rather than initiating linkages with long-distance markets, it may be advantageous for the province to develop its own local markets. Both the public and private sectors need to work in collaboration in establishing fresh produce markets, agro-processing industries, and depot facilities in rural areas where many small producers are located. This will result in employment opportunities for rural people and will stimulate local economic linkages between the farming sector and the non-farming sector through forward and backward linkages.

7.2.5 Establishing public-private partnerships through AgriBEE

AgriBEE applies to the entire supply chain in the South African agricultural sector, which includes all economic activities relating to the provision of agricultural inputs – farming, processing, and distribution, logistic and allied activities – which add value to farm products. AgriBEE is a good strategy that can be used to enhance sound partnerships between the public and the private sectors. Smallholder farmers should take advantage of AgriBEE to create partnerships with other stakeholders in the supply chain. These partnerships will also play a critical role in the development of workable empowerment financing mechanisms and institutional arrangements. Joint ventures and private partnerships in the agribusiness supply chain can make a positive contribution to the growth and development of small-scale farmers.

7.2.6 Visits to markets and agro-processors

Visiting major markets such as supermarkets, agro-processing industries, wholesalers, and retail markets in nearby towns and cities will motivate smallholder farmers to make an effort to produce products that are demand-driven. Sanginga, Best, Chitsike, Delve, Kaaria and Krikby (2004) contended that these visits help to broaden the farmers' opportunities beyond what they already know by exposing them to different situations and opportunities. They also emphasised that these visits help the farmers to collect information on crop varieties and products, their quality characteristics, preferred presentation, (size, weight, etc.) packaging, price, frequency and volume of delivery, and terms of payment, in order to assess the demand for products in short supply and to identify products in high demand, which farmers can start producing. These visits are also important to identify potential buyers and establish contacts with them. In some cases, it is also essential to facilitate "look and learn visits" to farmers who have been successful in marketing their products (Sanginga *et al.*, 2004).

7.3 CRITICAL SUCCESS FACTORS

The following critical success factors are imperative for promoting smallholder farmers to high-value markets in the Limpopo Province:

There is a need to depopulate smallholder farmers on small plots and assist them to access sufficient and productive land through land reform programmes, since the majority of farmers are still farming on small plots under communal land.

Smallholder farmers that are currently producing for and supplying to agricultural markets should be assisted to be consistent in producing high-value crops and to expand their production base through comprehensive agricultural support services.

Most smallholder farmers lack mechanisation and they depend on hiring tractors, which are scarce in their respective areas. The new MERECAS

policy of the LDA can be useful in assisting smallholder farmers with farm mechanisation such as tractors, ploughs and trailers.

There is a need to support resource-poor farmers with full funding for on-farm infrastructure through CASP so that threshold investment levels can be reached. Before funding projects with on-farm infrastructure, feasibility studies should be conducted to avoid fruitless expenditure.

The majority of smallholder farmers experience water scarcity and therefore there is a need to assist these farmers with water so that they can expand their production base. 'Water first, the rest shall follow'. Access to irrigation water is therefore crucial if small-scale farmers are to be sustained in the agricultural value chain. It is well known that overdependence on rain-fed production limits the opportunities of small-scale vegetable farmers to engage in commercial vegetable production. Expansion of irrigation water to enhance access to water by small-scale farmers is fundamental.

The LDA should continue with its crop input subsidy, as it can help smallholder farmers to overcome high inflation in input prices.

Access to credit, especially for production inputs, is a necessity for smallholder farmers and can play an important role, especially if resource-poor farmers are allowed to access this scheme in practice.

Smallholder farmers who are performing well in their production activities should be assisted with value-adding facilities along the value chain. Farmers should be assisted to acquire value, create value, add value, retain value and distribute value on a sustainable basis.

Value chain economists working in collaboration with extension officers in the LDA should conduct market research to link farmers with lucrative markets that offer good prices.

There is a need to lobby for strategic partners to invest in smallholder agriculture. The strategic partnership between the Makuleke Irrigation Scheme and the AWC Creighton Company in potato production is a good model that can be replicated in RESIS projects and other smallholder agricultural projects.

Emerging farmers should market their products through farmer organisations such as the LTGA to minimise transportations costs. The government should also intervene through transport subsidies for poor emerging farmers.

Another alternative may be to establish large fresh produce markets, depot facilities, and agro-food processing industries in rural areas.

Since AgriBEE applies to the whole agricultural supply chain, it can be a good strategy to empower smallholders with tenders to supply government departments such as hospitals, correctional services facilities, supermarkets and agro-processing industries. However attention (empowerment) should be directed to those who have an interest and some experience in farming activities.

Farmers need training in financial management skills such as recordkeeping and strategic marketing.

The commodity approach, as one of the LDA's strategies to ensure service delivery by extension officers, may help to mobilise farmers and group them according to commodity associations. Farmers need to communicate and coordinate amongst one another, e.g. by agreeing on definite planting, harvesting and marketing dates to enable them to achieve economies of scale.

In promoting smallholder farmers to high-value markets, there is a need to create market information systems that are within the farmers' reach. Extension officers and agricultural economists should present and interpret this information to farmers.

7.4 CONCLUSION

The LDA should be commended for initiating programmes and policies intended to benefit smallholder farmers, such as the MERECAS policy, LADA, RESIS, LADEP and CIASP. These programmes and policies should not only focus on group-owned projects, but also on potential individual farmers, since this study found that individual farmers are more successful than groups of people in projects. The role of the LDA is to provide an environment that is conducive to smallholder farmers participating successfully in the agribusiness value chain. For smallholder farmers to engage in supplying agricultural markets, they should be empowered to produce on a sustainable basis.

Since infrastructure, research and extension services fall in the public goods domain, the LDA should continue to take a leading role in investing in these support services. Attention should be paid primarily to service delivery through quality of service offered to farmers. Access to productive land, production inputs (particularly water), infrastructure, capacity-building, extension services, mechanisation, value-adding facilities, market information and transport logistics has been found to be the key factor influencing smallholder farmers' participation in high-value markets. Value chain economists working in collaboration with extension officers should provide regular market information and training workshops, geared towards providing up-to-date information to smallholder farmers.

The goal of market access in the value chain should always be concomitant with efforts to ensure that smallholder farmers benefit from accessing markets. There are a number of things that emerging farmers and their support agencies can do to improve their bargaining position. Collective action, the development of alternative outlets, the strengthening of institutions, political negotiation, better information, the identification and exploitation of weaknesses in the value chain, capitalising on black economic empowerment sentiments and legislation, as well as collective transport solutions will provide the means by which market access can be promoted and sustained (Shepherd, 2007).

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Annexure 1: Potato Enterprise Budget for Makuleke Irrigation Scheme: 2007

Cost Breakdown for Potatoes 240 ha				
Date	Quantity	Description	Cost/unit	Total in Rands (R)
18.03.2007	19	Labour sent for planting		20 520
01.03.2007	3	Labour started planting		9 000
19.03.2007	22	Labour planting		5 280
30.03.2007		Casual labour		4 320
02.04.2007	32	Labour planting 9 days		11 520
20.04.2007	20	Labour from Radium for 8 days		9 920
20.04.2007		Wages to Gibson (11440 + 6000)		17 440
20.04.2007	11	Labour from Groblersdal		3 520
05.05.2007	14	Casual labour for planting		9 310
05.05.2007		Wages deposit to Gibson		19 620
05.05.2007		Wages labour		10 440
17.05.2007		Wages		10 440
05.06.2007		Wages (3210 + 2000)		5 210
12.06.2007		Cash (Gibson loading ramp)		4 000
23.06.2007		Gibson (for wages + cement)		7 000
02.08.2007		Wages to Gibson		3 960
10.08.2007		Wages		187 300
18.08.2007		Wages to Gibson		5 000
24.08.2007		Wages		176 085
30.08.2007		Wages		68 300
13.09.2007		Final wages for harvesting		89 275
05.05.2007		Petrol for Gibson (Farm management)		1 801
18.08.2007		Petrol for Gibson (Farm management)		400 00
19.03.2007	6000	Diesel litres		34 620
10.04.2007	6000	Diesel litres		36 900
20.04.2007	5000	Diesel litres		30 750
03.05.2007	4000	Diesel litres		25 800
01.06.2007	4000	Diesel litres		25 800
03.08.2007	4000	Diesel litres		27 120
08.08.2007	4000	Diesel litres		27 120
20.08.2007	4000	Diesel litres		27 120
29.08.2007	5000	Diesel litres		33 900
12.09.2007	5000	Diesel litres		34 150
15.09.2007	4000	Diesel litres		27 320
15.09.2007	45121	Bags of seeds including transport	92	4 151 132
15.09.2007		Herbicides		53 832
15.09.2007		Temik		554 400
15.09.2007		Rizolex	3.35	151 155
15.09.2007		Maintenance		68 359
15.09.2007		Elec & Plumbing		20 340
20.04.2007	160t, 295t,	Fertilizers 3:2:4(32)		1 103 815

05.05.2007		Aircraft, Rid mill & Score		6 875
26.05.2007		Aircraft spray for worms + leaf miner		13 991
26.05.2007		Airstrip construction		15 000
26.05.2007		Repair loading ramp + materials		9 084
01.06.2007		Airfield construction (R.W.F. Plant Line) vat excl.		86 000
28.05.2007		Agron fertilizers		745 800
06.06.2007		Aircraft spraying		19 805
05.07.2007		Aircraft spray		40 671
21.07.2007		Aircraft spray		15 130
04.08.2007		Aircraft spray		17 248
31.07.2007		Transport equipment for harvester		36 000
13.09.2007		Forklift		39 000
13.09.2007		Chemicals applied by air		423 840
13.09.2007		Fertilizer spreading		23 244
17.04.2007		Eskom (20249.88 vat excl)		11 352
16.05.2007		Eskom		13 109
06.06.2007		Eskom		13 153
10.07.2007		Eskom		25 283
07.08.2007		Eskom		37 427
		TOTAL		8 705 307
		Total according to the faxed records (Creighton)		8 705 356
			Difference	-48.17
		Income earned		12 173 826
		Total Expenditure		8 705 356
		Surplus		3 468 470
		Creighton's share	60%	2 081 082
		Makuleke farmers' share	40%	1 387 388
		Advance for establishing toilets		100 000
		Previous Eskom bill		47 469
		Net Income on the 240ha		1 239 919

Source: Costs as supplied by the strategic partner, i.e. Creighton Company