# A critical analysis of agricultural contracts with smallholder farmers in South Africa: A case study of Winterveld region

by

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# DECLARATION

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

**Signature** .....

**Date** .....

# DEDICATION

To Mercy and Rufaro.

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## ABSTRACT

Contractual arrangements have been viewed as institutional arrangements ideal for improved market access for smallholder farmers. However, certain questions remain unanswered, such as whether the smallholder farmers benefit from them and how? Do contractual arrangements empower smallholder farmers or not? And do contractual arrangements lead to improved gross farm incomes for smallholder farmers or not? From these questions, three hypotheses were developed and tested, which are: Contracting lowers smallholder farmers' market price risk and therefore improves market access; contracting improves smallholder farmers' farm incomes; and contracting improves smallholder farmers' capacity to access external resources (financial credit, technical and extension services).

This thesis characterised agricultural contractual arrangements in the Winterveld region, which ranged from implicit to explicit contracting. These contractual arrangements were characterised based on the general description of the contractual arrangement, the nature of the contract (formal or informal), contract negotiation, price discovery and payment structure, responsibilities of the contracting firm and farmers, contract enforcement and conflict resolution and opportunities and threats associated with the contractual arrangement.

The study used a case study approach and interviewed a total of 50 smallholder farmers and three agribusiness companies. Most of the data were qualitative in nature with significant

quantitative data on prices and yields. Only smallholder farmers who were actively involved in marketing their produce for the season 2009/2010 were interviewed, using a structured questionnaire. Agribusiness companies were interviewed using semi-structured questionnaires. The technique of triangulation was employed to validate data from the three primary data sources, which were key informants, smallholder farmers and agribusinesses transacting with Winterveld smallholder farmers. Literature on contract farming was explored and the main objective of the study was to show how contractual arrangements affect smallholder farmers and how best can they be used to mainstream smallholder farmers into formal agricultural markets.

Results from the qualitative analysis showed that non-land assets endowment are sources of pre-selection bias and in some cases are determinants of being contracted. However there was no positive relationship between owning non-land assets and contracting. Some contractual arrangements, like the marketing specification public tenders' contractual arrangement, are well designed to minimise farmers' price risk. However, others, like the marketing specification valencia contractual arrangement, do expose farmers to market price risk.

There was a significant difference in farm gross incomes between contracted and non-contracted farmers. It is however so that there were different levels of skills, management and enterprise mix between them. In some cases, for instance in the marketing specification valencia contract and marketing specification leafy vegetables and navels contracts, contracting does enable farmers to access external resources. However, having access to external resources also depended on the farmers' innovativeness and social networks and the information available to them.

From these results, the thesis concluded that contractual arrangements are not a panacea for improving smallholder farmers' market access, therefore other alternative marketing channels for smallholder farmers have to be explored. Market outlets such as hawkers had very low transaction costs, which makes it easier for smallholder farmers to enter such market channels, but there is very low public support in such market channels. Furthermore, it is not always the case that contracting prices are superior to other prices in alternative markets. Some farmers in non-contractual arrangements in some cases realised superior prices for their produce.

Based on the study findings, this thesis proposes key government interventions in eliminating information asymmetries and development of a public framework on contracting where necessary. Information asymmetries in particular can be reduced by deployment of effective and well trained agricultural extension personnel in smallholder farming areas. Also, a public framework on contracting reduces information asymmetries as well as guarding against unfair business practices against smallholder farmers.

Furthermore, due to the heterogeneous nature of produce from smallholder farmers, exploration of urban supply chains characterised by cultural diversity and low income consumers might result in improved market access for smallholder farmers. The thesis also proposes further research on the policy environment in which agricultural contracting takes place in South Africa. This could help in creating better policies which may foster increased formal market access by smallholder farmers.

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# ACRONYMS

| | |
|---|---|
| AgriBEE | Agricultural Black Economic Empowerment |
| CDW | Central Distribution Warehouse |
| CGA | Citrus Growers' Association |
| CIRAD | French Agricultural Research Centre for International Development |
| DAFF | Department of Agriculture, Fisheries and Forestry |
| Euro-GAP | European Good Agricultural Practice |
| FNB | First National Bank |
| FPM | Fresh Produce Market |
| GDP | Gross Domestic Product |
| GI | Gross Income |
| GM | Gross Margin |
| GSSC | Gauteng Shared Services Centre |
| HACCP | Hazard Analysis Critical Control Points |
| ISO900 | Standard Organisational Management System |
| JFPM | Johannesburg Fresh Produce Market |
| MCC | Magaliesberg Citrus Company, Ltd |
| NAMC | National Agricultural Marketing Council |
| NDA | National Department of Agriculture |
| QACCP | Quality Analysis Control Points |
| SADC | Southern Africa Development Community |
| SMS | Short Message Service |
| SPSS | Statistical Package for Social Scientists |
| TFPM | Tshwane Fresh Produce Market |
| TV | Television |
| TVC | Total Variable Costs |
| UN | United Nations |
| USA | United States of America |
| WCP | Winterveld Citrus Project |
| WUFA | Winterveld United Farmers' Association |

# CONVERSIONS

| | |
|---|---|
| 5 morgen | ≈ 4.3 hectares |
| 10 morgen | ≈ 8.6 hectares |

# CHAPTER 1

# INTRODUCTION

## 1.1 BACKGROUND

Trade liberalisation, deregulation of agricultural markets, urbanisation and growth in populations, increased disposable incomes and changes in consumer preferences in South Africa have all contributed to immense changes in the procurement, processing, distribution and retailing of agricultural produce. In turn, these have brought some unforeseen challenges to smallholder farmers, particularly in their capacity to participate in the mainstream agricultural markets. In many cases, they have been excluded or have had their participation in these markets limited (Berdegué, Biénabe & Peppelenbos, 2008; Sartorius, 2003).

Some of the major challenges include the rise of consumer awareness in terms of product quality and traceability. This challenge has been exacerbated by the missing gap in market governance (lack of effective public standards). The removal of a government role in the market has led to the proliferation of private standards, which in many cases smallholder farmers are incapable of adhering to, leading to their limited participation in the mainstream agricultural markets. Agribusiness companies and firms have also favoured transacting with a few, well established large-scale commercial farmers in order to reduce the costs involved in transacting with many smallholder farmers with heterogeneous products. This in particular has led to the development of strategic preferred suppliers schemes. The supermarket revolution and the rise of supermarket driven agricultural supply chains have also brought some challenges to smallholder farmers in accessing formal markets. This is in particular reference to their stringent quality standards and quantity requirements. Also, with the rise of preferred supplier schemes and central distribution schemes, smallholder farmers in many cases are limited in their participation in these markets (Reardon and Timmer, 2005).

Given this backdrop, some of the leading researchers, FAO and the World Bank have advocated for contractual arrangements as an institution that might foster increased market participation by smallholder farmers. Contractual arrangements are diverse in nature and range from informal

hand-shake arrangements to formal written arrangements and there are two broad categories of contractual arrangements namely, production specification and marketing specification arrangements (Kirsten and Sartorius, 2006). As tools for increased smallholder participation, contractual arrangements have several advantages as well as disadvantages for the transacting partners.

Some of the advantages include reduced transaction costs, reduced information asymmetries, stable incomes for farmers, secured markets for farmers and lowered risk (production and marketing) for transacting partners. These advantages vary significantly depending on the type of contractual arrangement.

However, contractual arrangements, like any other contracts in general, are incomplete. The non-verifiability of certain variables in the contract leads to poor contract enforcement and opportunistic behaviour from both transacting partners. For the farmers, this includes among others, side selling, subversion of scheme inputs, withdrawing labour at critical periods such as planting and harvesting and also locking the farmers in the contract. On the contractor's side this includes, among others, the use of complex formulas and quality checks which, in many cases, are not known by the farmers, non-disclosure of certain contract clauses or terms to farmers and, in some cases, buyers act as monopolies (Da Silva, 2005).

## 1.2 PROBLEM STATEMENT

Contractual arrangements are considered as some of the institutional arrangements relevant for improved market access for smallholder farmers consequently improving their incomes and wellbeing. Through this they are capable of investing their returns into agriculture resulting in improved production methods. It is sometimes considered that this alone will lead to a vibrant rural economy with food and nutrition available locally at reasonable prices.

Apartheid and agricultural liberalisation promoted the dual nature of agricultural in South Africa in which most retailers preferred transacting with large-scale commercial farmers to smallholder farmers. Large-scale farmers have access to mainstream markets and are well linked to both domestic and international markets through their agents. Therefore, there is a need for an

increased support for smallholder farmers, particularly in accessing formal markets. Improved market access for smallholder farmers is meant to enable them to invest in their farms and enter into commercially oriented farming.

Various studies have provided evidence on how restructured markets and the rise in supermarkets have excluded smallholder farmers from participating in the mainstream agricultural markets, Louw *et al.,* (2008); Reardon and Weatherspoon, (2003). The rise in supermarkets and supermarket franchises, in particular their shifts from traditional procurement from the fresh produce markets and local producers to centralised procurement and dedicated suppliers have also contributed to poor market access by smallholder farmers.

Despite the current government's pro-smallholder farmer policies aimed at enhancing farmer production capabilities, many smallholder farmers still do not have access to formal agricultural markets. This could be as a direct or indirect result of one or many of the barriers that smallholder farmers face when accessing formal agricultural markets, which include, among others, lack of basic infrastructure, information asymmetry and lack of input and credit markets.

Given the attention that contractual arrangements have gained as a tool for fostering increased market participation by smallholder farmers, certain critical questions have arisen, notably:

- Do smallholder farmers benefit from contractual arrangements and how?
- Are contractual arrangements empowering smallholder farmers or not?
- Are contractual arrangements improving market access for smallholder farmers or not?
- Are contractual arrangements leading to increased farm gross incomes for smallholder farmers or not?

## 1.3 HYPOTHESES

The hypotheses of this study are as follows:

- Contracting lowers smallholder farmers' market price risk and therefore improves market access.

Against the background of volatile agricultural produce prices in both domestic and international markets, which are in most cases beyond the farmers' control, contracting brings a platform with stable prices and secure markets. Studies conducted in Asia by Reardon *et al.* (2010), and in South Africa's Limpopo Province by Biénabe and Vermeulen (2007), have shown that farmers are able to get a relatively stable market price for their produce when they are under contractual arrangements. Therefore, this study hypothesises that farmers in contractual arrangements have lower market price risk compared to their non-contracted counterparts.

- Contracting improves smallholder farmers' farm incomes.

  Various studies have shown that contracting improves smallholder farmers' incomes. These include, among others, Fafchamps and Minten (1998); Maluccio and Haddard (2000); Da Silva (2005); Bellemare (2010) and Reardon *et al.* (2010). From this background, this study hypothesises that contracted farmers have better gross incomes than their non-contracted counterparts.

- Contracting improves smallholder farmers' capacity to access external resources (financial credit, technical and extension services).

  In South Africa, some of the leading financial institutions such as ABSA, FNB, Nedbank and Standard Chartered Bank are looking into other means of financing farmers which are cost effective and efficient and guarantee their financing schemes. The most well pronounced one is when farmers use the value of their crop or livestock as collateral. This has come to light due to the general increasing trends in the agricultural input prices that are proving it difficult for agricultural financers to accept only title deeds as collateral. In some cases, farmers are involved in non-transferable and non-tradable property rights such as communal property rights or leasehold where there are no title deeds. This kind of financing enables farmers to have access to finance without necessarily having a title deed. In addition, studies conducted by da Silva (2005), Natawidjaja *et al.* (2007) and Reardon *et al.* (2010) reveal that contracted farmers are capable of getting better technical and extension services. From this background, this study hypothesises that farmers who are engaged in contractual arrangements have better

access to external resources (financial credit, technical and extension services) than their non-contracted counterparts.

## 1.4 RESEARCH OBJECTIVES

The main objective of the study is to show how contractual arrangements affect smallholder farmers and how contractual arrangements as forms of institutional arrangements can best be used to mainstream smallholder farmers into formal agricultural markets.

The specific objectives are:

- To identify and characterise contractual arrangements in the study area.
- To assess whether asset endowment is a determinant in farmers' capacity to be contracted and which types of assets are critical.
- To determine how contractual arrangements affect the marketing strategies of smallholder farmers, particularly in their capacity to mitigate market price risks.
- To assess whether contracting improves smallholder farmers' farm incomes and their own investment capacity.
- To assess whether and how contracting improves smallholder farmers' capacity to access external resources for investment.
- To come up with some policy recommendations on contract farming in the context of mainstreaming smallholder farmers to the formal agricultural markets.

## 1.5 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY

Agriculture plays a crucial role in the South African economy. While primary agriculture only contributes 2.5 % of the Gross Domestic Product (GDP), it contributes 8 % of employment and with the strong forward and backward linkages agriculture has, the whole agro-industrial sector represents 12 % of the GDP (Statistics South Africa, 2007). The estimated 3 million smallholder farmers contribute less that 10 % of the agricultural economy (NDA, 2008). This together with the increasing demand of agricultural produce from an increasing population with different

preferences poses both an opportunity but at the same time with a substantial challenge for smallholder farmers' inclusion in the mainstream or formal agricultural markets, due to their heterogeneous products in particular.

Increased participation in the mainstream markets is likely to improve smallholder farmers' incomes. This consequently would lead to reduced poverty levels in the country and this will be one step in achieving the Millennium Development Goals[1] and will be in line with the Local Economic Goals of the Gauteng Province. Despite rapid urbanisation, 43 % South Africans still stay in rural areas where poverty incidences ranges from 65 to 70 %, and coincidentally most of the smallholder farmers are predominant in these areas (UN, 2003; Machethe, 2004).

This study looks at how contractual arrangements can be fine-tuned for enhanced or increased market participation for smallholder farmers. Consequently, this will contribute to the development of contractual arrangements models which may be used to improve smallholder farmers' access to formal markets.

This study will also add to the existing understanding of contractual arrangements and how they can be used as tools to foster increased market participation of smallholder farmers in the mainstream agricultural markets.

Improved market access by smallholder farmers who are predominant in rural areas is meant to improve their incomes and consequently stir up other economic activities in their surroundings. By so doing, a robust rural economy could be developed, helping in mitigating the adverse effects of rural to urban migration.

Through this study, there are several outcomes that are going to benefit directly the agricultural sector which include, among others, an increased support for smallholder farmers, public policy recommendations and capacity building.

[1] Promoting market access for the rural poor and poverty reduction is one of the Millennium Development Goals (MDGs).

## 1.6 RESEARCH METHODOLOGY AND APPROACH

This study utilised a case study approach and primary data on contractual arrangements was gathered using structured and semi-structured questionnaires. Purposive and snowballing samplings were used in the selection of cases. The choice of the study area was prompted by its proximity to a metropolitan city, homogeneity of farm holdings in terms of acreage and the presence of organised farmers. Organised farmers in particular are likely to get into contractual arrangements with buying firms because this lowers their transaction costs. This has been well acknowledged in most literature on contractual arrangements in agriculture. A detailed research methodology and approach is given in Chapter 3.

## 1.7 DELIMITATIONS

The proposed study is focused on contractual arrangements that are engaged in by smallholder farmers in the Winterveld region. It is important to note that agriculture is diverse and identification of variables that determines contracting is cumbersome (Bellemare, 2009). Note also that contract theory is unique in the sense that contracts are designed to fit a unique trading situation (Just and Wu, 2009). Again it is also important to note that the choice of contractual arrangements is fundamentally affected by the type of market outlet in which produce is sold. This entails that different contractual arrangements that farmers are engaged in will be identified and characterised as well as constraints and opportunities associated with them. From this, tailor-made contractual arrangement models can be developed for improved smallholder farmers' market access. This study will show how contractual arrangements affect smallholder farmers in the Winterveld region and how best they can be used to mainstream them into formal agricultural markets.

## 1.8 ORGANISATION OF THE STUDY

This study is divided into six chapters. Following this first chapter, Chapter 2 presents an analysis of studies that have been done in South Africa and abroad on contractual arrangements. Chapter 3 presents the research design and methodologies applied. It discusses the methods of

data collection, data collection constraints and how data were analysed. Chapter 4 gives a characterisation of agricultural contracts identified in the Winterveld region and it is followed by Chapter 5 on the impacts of contractual arrangements on farmers' income. Lastly, Chapter 6 presents policy recommendations developed from lessons learnt from the study and areas of further research.

# CHAPTER 2

# CONTRACTUAL ARRANGEMENTS IN AGRICULTURE

## 2.1 INTRODUCTION

The purpose of this chapter is to critically discuss theoretical and empirical literature related to this study. The literature consulted has been arranged into five sections, which include the following: the shift in procurement systems in South African agriculture, governance structures in agricultural supply chains, contractual arrangements, contracting models and lastly sustainability of contract farming.

## 2.2 THE SHIFT IN PROCUREMENT SYSTEMS IN SOUTH AFRICAN AGRICULTURE

The issues of quality and safety standards in the supply chains of agricultural commodities have changed the way companies and retailers procure or source produce from the farmers. Recent procurement systems are characterised by four elements which are; i) a shift from no standards and/or public standards to private standards, ii) a shift from spot market arrangements to more vertical coordination mechanisms which include both explicit and implicit contracting such as strategic suppliers, iii) a shift from local procurement to centralised procurement and iv) a shift from conventional to dedicated wholesalers (Reardon *et al.*, 2009).

A shift from no standards or public standards to private standards took place as a direct consequence of the quest to fill the gap of missing or inadequate public standards (Reardon *et al.*, 2009; Swinnen, 2007). With the increasing consumer awareness in terms of food quality and safety issues, agribusiness companies prefer to stick to private standards which differentiate their products from those other competitors through processes of certification and branding. These processes make it possible for consumers to trace the origins of a product and at the same time enable food companies to trace responsibility in cases of emergency or disease outbreak. These food quality and safety standards have facilitated an initial selection bias when contracting

farmers. Only farmers who are capable of incorporating these standards are selected and in many cases smallholder farmers are excluded on the pretext of non-compliancy.

The shift from spot market arrangements to more vertical coordination mechanisms has been facilitated through the need for consistency (in terms of quality and quantity specifications) in the supply of agricultural produce. Through this, agribusiness companies are guaranteed of a steady supply of quality produce. This institutional arrangement addresses the ubiquitous problems of missing or idiosyncratic failed factor, credit and output market, asymmetries of information between buyers and sellers (Reardon *et al.*, 2009; Saenz Segura, 2006).

Through the improvement in transport networks and information and technology a shift from local procurement to centralised procurement has been facilitated. Most of the supermarkets in South Africa practice centralised procurement using their own central distribution centres. In many cases, these centres will be procuring from dedicated and specialised strategic suppliers of specialised products. A typical example of a supermarket with preferred suppliers can be read in Box 2.1 below. Such kinds of arrangements in many cases impede smallholder farmers from participating in their local markets through increased competition from products procured in others areas.

**Box 2.1: From wholesale to preferred supplier: Shoprite**

Shoprite, a leading South African retailer, relied on sourcing from wholesale markets in 1992 for 70 % of its produce. In 1992 Freshmark, a wholly owned specialised and dedicated wholesaler, started to form "preferred supplier" relationships with large commercial farmers (from whom it sources the majority of its produce), as well as some large wholesalers and some medium-scale and smaller-scale farmers. By 2006, it had 700 such preferred suppliers (a few for each main product), and sourced 90 % of its produce from them and 10 % from the wholesale markets. The shift to using preferred suppliers was facilitated in South Africa by the sharply dualistic farm sector structure. Freshmark has "followed" Shoprite into other African countries, but is still sourcing much of its produce from South Africa.

Source: Adapted from Vorley, Lundy and MacGregor (2008).

In agricultural supply chains, the coordination of supply chain players plays a crucial role as a way of governance. Coordination depends on institutions within the market that transacting partners are participating in. This in particular shapes the contractual arrangement.

## 2.3 GOVERNANCE STRUCTURES IN AGRICULTURAL SUPPLY CHAINS

There are several types of institutional arrangements that organise and coordinate the production and marketing of agricultural products (inputs and outputs). These include spot market arrangements, vertical coordination and vertical integration. The choice of market governance structure is influenced by a number of variables, which include among others, frequency of trade, asset specificity, uncertainty, availability of substitutes and switch on and off cost (Kirsten and Sartorius, 2007).

Coordination depends on the context in which the supply chain is focused. It could be market coordination, domestic coordination, industrial coordination or civic coordination. Supply chain players' position, attributes and actions regarding the issue of food quality and safety standards assist in determining the form of coordination mechanism of a particular segment of the chain. When supply chain players are able to embed the quality, safety, labelling, branding and certification processes, the coordination mechanism tends to be more hands-off and the opposite results in a more of hands-on mechanism which closely resembles vertical coordination (Ponte and Gibbon, 2005).

In market coordination, prices can be used as proxy to show the quality of the product being traded. This coordination mechanism resembles spot market transactions, with the assumption that the market is perfectly competitive (Ponte and Gibbon, 2005). In spot market arrangements, there are no contractual agreements since exchange is done without prior arrangements on the conditions of sale.

Domestic coordination mainly involves repeated interaction between buyer and seller in a local market. A familial kind of trust develops and consequently relational contracts emerge. Uncertainty in product quality is solved through long-term relations and use of private brands (Ponte and Gibbon, 2005). The domestic coordination mechanism relies heavily on local social capital and trust.

Industrial coordination emerges when companies are trading in global markets where competition is stiff and there is need for product differentiation. Uncertainty about product quality in the market is solved through a barrage of certification, inspection and use of private

standards (Ponte and Gibbon, 2005). This opens local farmers to world market pressures. Farmers have to adhere to global food and safety standards, which include the EurepGAP, HACCP, QACCP and some retail food and safety standards. These safety standards increase transaction and operational costs for the resource-poor smallholder farmer, consequently resulting in exclusion in many cases. In many cases, it is beyond the reach of smallholder farmers to get some of these food and safety standards certificates. Without such certificates smallholder farmers cannot participate in these markets.

Civic coordination or collective action is where farmers come together in order to bargain for a better market arrangement. Here there is collective commitment to welfare, and typical examples are commodity associations or farmer organisations. In many cases, smallholder farmers pool their financial resources to get some of the global certification processes underway. There are many success stories of farmers' associations like the one highlighted, however group dynamics in some cases lead to the collapse of these associations.

### 2.3.1 Spot market arrangements

This is a form of institutional arrangement based on the neoclassical assumptions of the market. In the spot market, both buyers and sellers are price takers and they assume atomistic behaviour. However, in the absence of perfect information, spot markets are less and less effective in coordinating supply and demand (Minot, 1986). Through this institutional arrangement there is no assurance that supplies will be properly timed and producers are often either unaware or unconvinced that time is worthwhile (Minot, 1986). Suppliers cannot effectively plan using prices transmitted in the spot market transactions and this often results in cobweb cycles. An institutional arrangement such as the spot market will only work effectively for those commodities that have few quality variations, are less perishable, have short production cycles which do not require precise timing of supply and have stable and known markets (Minot, 1986; Kirsten and Sartorius, 2007). In South Africa and many other Sub Saharan African countries, spot markets function well for grains and staple food crops.

### 2.3.2 Vertical coordination

Vertical coordination is when two or more players in the supply chain of a particular product start to work strategically together (Martin, 1999). This particularly lowers transaction costs since information is passed on without glitches. Vertical coordination ensures a mutually acceptable balance of costs and benefits between trading partners. It works well with perishable products (Minot, 1986).

### 2.3.3 Vertical integration

This is a method of coordination where a single firm controls operations through ownership of two successive stages in the supply chain of a product (Martin, 1999). Vertical integration or hierarchy is when a company or farmer gets involved in the running of a business in the next line of industry. For instance, the feed industry can venture into production of livestock. Through such a kind of institutional arrangement certain types of risks and uncertainty are minimised and it also reduces transaction costs. Strict quality control standards are a sole feature in vertical integration. Vertical integration works for crops that have important quality variation, have long production cycles, require precise supply timing, have a complex market and that require substantial amounts of specialised inputs yet at the same time do not require intensive use of labour or careful husbandry (Minot, 1986). Vertical integration is also adequate for commodities for which credit, input supply and technical assistance are less critical and it works well where production and market information is easily available and where credit and input markets are well developed (Minot, 1986).

## 2.4 CONTRACTUAL ARRANGEMENTS

A contract can be defined as one way to coordinate exchange in the supply chain. Contracts are means by which people seek, identify and negotiate opportunities from exchange. Contracts, whether written or verbal, are all incomplete because of the bounded rationality of contracting parties and the non-verifiability of relevant variables necessary to make them complete (Kirsten *et al.*, 2009). Therefore contracts in agriculture are subject to subversion or opportunistic behaviour, strategic defaulting, manipulating of scheme rules, treating contract farming as

secondary to other agricultural and non-agricultural activities and withholding labour from critical tasks such as harvesting. Incompleteness of contracts can lead to the poor performance of contracts and in extreme cases failure. Contractual agreements are shaped by a number of factors, which include property rights relations, labour processes and organisational forms (Little and Watts, 1994). Contracts are generally heterogeneous in nature and it will be foolhardy to come up with a general theory (Little and Watts, 1994). Furthermore, contractual arrangements are designed to fit a particular trading situation. This in particular leads to variations in form and clauses in the contractual arrangement (Just and Wu, 2009). Contracts in the expanded and incomplete sense are found everywhere in agriculture. Contractual arrangements, which includes contract farming, could have different dimensions and forms.

Contractual arrangements are an institutional arrangement that operates as an intermediary between spot and vertical integration (Key and Rusten, 1999). Jaffe (1994) noted that this institutional framework might be more fully utilised to link smallholder and emerging farmers to commercial markets.

Da Silva (2005) defines contractual arrangements as an intermediate mode of coordination whereby the conditions of exchange are specifically set among transacting partners by some form of legally enforceable binding agreement. Specifications include production technology, price discovery, risk sharing and other product and transaction attributes.

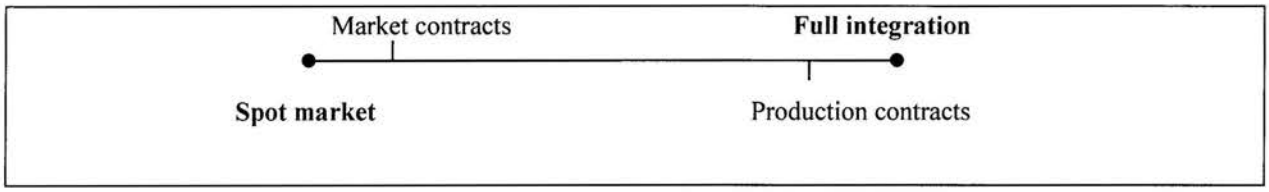
Contractual arrangements can also be seen as the relationship between growers and private or state enterprises that substitute for the open market exchange by linking nominally independent family farmers of wide variant with a central processing or purchasing unit that regulates in advance price, production practices, product quality and credit.

Contractual arrangements involves quite a number of tangible variables, which include the type of farmer, ranging from peasant farmer to corporate agribusiness, crops, and standards (quality) institutional and organisational configurations of contract employment (Little and Watts, 1994).

From all these definitions, the most important points of contractual arrangements that should be noted are as follows: there are two parties coming together with their own bounded rationalities that agree on certain business terms depending on the inherent characteristics of the product in

question, and this agreement could be legally or not legally enforceable. A taxonomy developed by Hudson (2000) in Box 2.2 shows that there are two broad categories of agricultural contractual arrangements, namely production contracts and marketing contracts. They differ significantly in terms of governance mechanism, with production contracts more resembling full integration while marketing contracts more resemble arranged spot market exchanges.

**Box 2.2: Showing the spectrum of contractual arrangements**




Source: Adapted from Hudson (2000)

### 2.4.1 Production contracts

The contractor provides inputs while the farmer provides land and labour. Under this arrangement, farmers cede substantial control over production decisions to the contractor (MacDonald, 2003). A farmer's payments depend on the costs he has incurred in agricultural production. Due to the fact that the contractor provides the critical inputs, he or she is usually entitled to a large proportion of the value of the product. Production contracts are agreed upon before production has begun. Duration of production contracts depends on farmer performance and the production cycle of the crop in question.

### 2.4.2 Marketing specification contracts

Marketing specification contracts are mainly concerned with the product rather than services provided by the farmer (MacDonald, 2003). Marketing contracts specify the quantity, quality, price and outlet where the product is going to be delivered. Arrangements are done during the production period but before harvesting. Through this arrangement, the farmer owns the product during the production period and has got autonomy in decision making (MacDonald, 2003).

A typical written or formal marketing specification contract constitutes the following; quantity and quality of the produce, price and price determination, condition of payment, price of output adjustability, contract duration, cultivation practices, and risk associated with the contract (Eaton and Shepherd, 2001)

On the conditions of payment the contract should state clearly how quality premiums are paid (that is when the farmer produces better quality than stipulated in the contract) and both the farmer and the buyer should understand how they are derived. It should include the length of period before the first payment is made and whether the buyer will pay for the product up front or will there be some other kind of arrangement.

Price and price determination is one of the crucial elements a written contract contains. It shows roughly how much the trading partners will get. In order to avoid conflict and contract failure in future, questions like these, among others, have to be fully understood by both trading partners: Are output prices fixed or adjustable? Are there guaranteed minimum producer prices regardless of what the market is offering? What are the disincentives for defaulting for the trading partners? And can a partner follow a legal recourse and repossess assets in cases of defaulting?

Risk associated with the contract involves the acts of God clauses, for instance, when the farmer fails to meet the contractual requirements because of natural disasters such as hail, drought or outbreak of epidemic diseases. This also applies to the contractor when he fails to pay farmers because of unfavourable conditions in the market like changes in consumer preferences. Through understanding of this, non-compliancy of trading partner due to these circumstances should not lead to contract failure. In some countries such as the USA, a fund is set aside from proceeds of the contractual exchange as insurance against such odds. Availability of effective public frameworks, like the USA example, mitigates contract failure.

### 2.4.3 The need for contractual arrangements in agriculture

Contractual arrangements have developed due to a number of reasons, which include the following: asset specificity, risk and uncertainty in the market, imperfect markets, and globalisation.

#### *2.4.3.1 Asset specificity*

This refers to the degree to which an asset can be economically transferred to alternative uses (Da Silva, 2005). Asset specificity can be in the form of site specificity, time specificity and/or human capital specificity. It will be uneconomic for a smallholder farmer to buy a cane crushing machine and use it efficiently; rather, a company has to invest in the machine and contract farmers to supply the mill with raw cane. Individual farmers cannot enjoy economies of scale from the machine because most of the time it will be running below its cost effective capacity.

Also farmers in some cases have to invest in specific assets in order for them to conform to the required produce quality and quantity. Through this they are bound to the contract or otherwise the assets are not of use outside the contractual arrangement.

#### *2.4.3.2 Risk and uncertainty in the market*

Agricultural decision making is done in an environment of risks and uncertainty (Hardaker, 2004). Contracting companies are risk averse profit maximisers, and on the other hand, farmers' decisions are rational subject to information, skill and resource limitations (Minot, 1986). In order to strike a balance between the two, contractual arrangements as an institutional form emerge to coordinate the production and marketing of agricultural produce.

Risk and uncertainty in the market manifest themselves through a number of attributes, which includes price fluctuations, quantity, quality, supply timing and opportunistic behaviour in cases of arranged marketing.

In order to mitigate risk and uncertainty in developed economies, farmers insure their crop or livestock. However, in developing countries, both insurance and credit markets are either thin or missing and in some cases collapsed because of high covariance risks. This leaves contracting as the only institutional form that can mitigate market risks and uncertainties (Saenz Segura, 2006).

#### *2.4.3.3 Imperfect markets*

The prevalence of market and production information asymmetries has promoted contract farming. Most agricultural supply chains are now demand driven and certain quality and quantity specifications have to be met for the product to be accepted by the consumers. Consequently, this is forcing agribusiness companies to have some knowledge of how the products have been produced (amount of fertiliser and chemicals applied, compliance with EurepGAP standards, labour used, etc). This can only be achieved when there is some close interaction between the farmer and the agribusiness company and contract farming is one such institutional arrangement that makes it possible.

Farmers are often short-changed by agribusiness companies through the use of official languages and technical jargon which the farmers cannot interpret, read or write. A study of the Gqugquma cane growers in South Africa revealed that most growers who retained copies of records were unable to read and interpret cane statements after 15 years of cane growing (Porter and Phillips-Howard, 1997). Illiteracy is high among smallholder farmers, therefore there is a need for a strong and influential leadership to speak for them in the drafting of contracts (Watt, 1994).

#### *2.4.3.4 Globalisation*

Through the idea of global consumption, most agribusinesses are entering into contractual arrangements with suppliers for a number of reasons, which include regular supply of quality products, global cost-effective sourcing and niche market supplies (Little and Watts, 1994). Worldwide sourcing of agricultural produce has led agribusiness companies to get into contractual agreement with farmers, but at an opportunity cost (Watt, 1994). Advances in transport logistics, information and communication technologies have made long distance sourcing possible.

## 2.5 MODELS OF CONTRACTUAL ARRANGEMENTS

According to Eaton and Shepherd (2001), contractual arrangements can be categorised into five broad models, which are the centralised model, the nucleus model, the multipartite model, the

informal model and the intermediary model. Agricultural produce can be contracted through any of these models, although certain crops favour certain models.

A centralised contract model is typically characterised by vertically coordinated activities. Production and quality standards are highly controlled and usually high value crops favour this model (Eaton and Shepherd, 2001). In South Africa, this is prevalent in poultry and horticultural production. With this model there is direct contracting between the contractor and the farmer.

The nucleus contract model is characterised by the contractor owning and managing a central estate with the processing of milling plant. Here out-grower schemes develop. Commitment by the contractor to provide inputs and technical service is high (Eaton and Shepherd, 2001). In South Africa, this model is mainly found in sugarcane estates, coffee and tea plantations. Switching on and off costs are particularly high for the contracting company.

Multipartite contracting involves a number of stakeholders (private and public) jointly participating with the farmers. Different organisations have exclusively different roles in the contracting. With such different goal orientated organisations there is need for a strong coordination mechanism for the contract to be a success (Eaton and Shepherd, 2001).

Informal contracting is characterised by individual companies who make some informal contract with farmers. Such contracts are usually seasonal and are mainly for fresh vegetables and tropical fruits. Financial investment is low and risk of non-compliance for both contracting partners is very high. Furthermore, this model largely depends on the availability of basic market and physical infrastructure. It is suitable for agricultural produce that requires minimal processing. Most contractual agreements are verbal and are transitory in nature. Supermarkets frequently use this model to procure fresh vegetables from farmers (Eaton and Shepherd, 2001). Switching costs are very low for both contracting partners.

An intermediary contract model is where the link between the contractor and the farmer is joined by an agent or middlemen. This disconnection between the contractor and the farmer often results in low income for the farmer, poor enforcement of quality standards and irregular production (Eaton and Shepherd, 2001). Agribusiness companies incur additional agency costs to

their operational costs. This is prevalent in the South Africa fruit markets, where agents' roles are well pronounced.

## 2.6 ADVANTAGES OF CONTRACTUAL ARRANGEMENTS

### 2.6.1 Advantages of contractual arrangements for farmers

Contractual arrangements offer farmers an opportunity to access improved technology. This could be through improved seed varieties, equipment, inputs, specialised skills and technical assistance. Access to improved technology will certainly enable farmers to reduce their production costs while increasing production and achieving improved incomes.

Contracting reduces farmers' production and marketing risks. Production risks manifest themselves through droughts, pest and diseases and lack of specialised skills, while market risks manifest themselves mainly in price volatilities. Engaging in a contractual arrangement in some cases acts as pseudo-insurance for farmers. It can also simplify production and marketing risks for farmers, and this, in particular, enables farmers to be effective.

Contractual arrangements offer a platform where farmers have secure markets with stable income flows. Through this, farmers are put in a position to plan their financial year with some assured levels of certainty.

Through the fact that most contractors add value to farmers' produce through processing, most farmers in contractual arrangements are in a position of enjoying high output prices, which consequently results in improved incomes. Through this, indirect access to profitable markets is achieved and it also enables farmers to diversify out of traditional crops into high value crops.

Lastly, contracting offers an opportunity for farmers to access financial credit. This is achieved when farmers use their contractual arrangements as collateral. Access to financial credit is one of the key elements for farmers' development.

### 2.6.2 Advantages of contractual arrangement for contractors

Contractors enjoy benefits from consistency in produce quality and quantity. Through this, buyers are capable of meeting their food quality and safety obligations. This reduces their search and control costs, particularly in terms of produce quality. It also reduces uncertainty with regards to the supply of raw commodities. In some cases, the contractor has the power of influencing the input quality that the farmer uses. Through this, consistent produce quantity and quality are assured, which at the same time removes uncertainty associated with these variables when transactions are done on a spot market basis.

Contracting enables contractors to have access to land. Land as one of the factors of production might be under complex tenure or too expensive for the contractor to own. Contractors can avoid such additional fixed costs by contracting and in some cases contractors even influence land use patterns.

In cases of resource provision, contractors certainly enjoy economies of scale when procuring inputs for farmers through bulk buying. Also, contractors in some cases use their contractual arrangements to get financial credit for themselves and for farmers.

## 2.7 DISADVANTAGES OF CONTRACTUAL ARRANGEMENTS

### 2.7.1 Disadvantages of contractual arrangements for farmers

Although contract farming has notable advantages for both farmers and contracting firms, there are demerits associated with contracting. Contract farming is seen as a method of labour discipline shift where companies have temporal rights over produce and labour. This is notable in out-grower schemes in tea and sugarcane plantations. An institutional arrangement like this leaves the farmer with little control over land and labour. Clapp (1994), views contract farming as a way of securing farmers' land and labour, leaving the farmer with imaginary control over them and in some cases he is equal to being merely a propertied labourer.

Designing of contracts in some cases is done by the contracting company, where quality standards and grades are specified. This gives only the company the autonomy to reject sub-

standard produce. An example of a disguised form of contractual hold up is the rejection of produce delivered by the farmer under the pretext of non-conformity with quality regulations (Da Silva 2005). Furthermore sophistication in the standards in prevalence of lack of quality information impedes many farmers in meeting the required safety and quality standards.

In some cases a contract can be designed in such a way that it binds farmers to the terms of the contract but leaves the company free to abrogate it. For instance when delivery schedules are set to influence prices paid to farmers. In the case of sugarcane contracting, delays in delivery will mean farmers will be paid less since sugarcane decreases sucrose content once harvested. Another example is when companies use complex formulas for price determination which many farmers are unable to conceptualise. This is primary due to the lack of public framework for addressing issues of contract enforcement and information asymmetry and lack of capacity from farmers' side.

Although farmers gain from technical innovations there is no equity on the control of production especially in production contracts. Technological controls can be used by firms as a conduit to shift market pressures from the firm to producers for instance inducing feed formulae that will in fact delay the growth of animals consequently resulting in less being paid to the farmers (Da Silva, 2005). It is difficult for the farmer to test what ingredients are in the feeds. This again is as a result of missing public framework for contracting which guards against such eventualities.

Contracting may leave farmers with very little flexibility in enterprise choice and participation in other alternative markets. In cases of perennial crops such as coffee, citrus and tea land is locked away from other profitable enterprises. Switching off costs are particularly high for both trading partners. This enterprise inelasticity means that in cases of poor performance of produce on the market, dire consequences on the farmer's income and welfare are felt. Furthermore it is not always the case that contractual prices are superior.

In order to reduce the risk of non-compliancy most farmers are forced to invest in certain level of assets sometimes under credit or loan arrangements. With the lack of public framework on contracting especially in developing countries when the contract fails farmers are exposed to risk of losing those assets.

In some cases contractors wields more power than the farmers and this puts them in a positions of abusing their trading partners (farmers). This can be through dictation of output prices and manipulation of input costs in cases of resource provision contracts.

Farmers risk degradation of their farm lands due to monoculture (Da Silva, 2005). In the event that the contractual arrangement ends, it is quite difficult for them to resuscitate damaged soils. This is prevalent in the timber, tea, coffee and sugar industries.

### 2.7.2 Disadvantages of contractual arrangements for the buyers or contractors

This brief does not go without highlighting some of the effects of contracting on the part of the contracting company, which includes among others, subversion of scheme funds and inputs by farmers, side-selling, shirking and increased operational costs.

Strategic defaulting by farmers costs lots of money for companies. When prices are higher than the contractual price, farmers tend to side-sell some of the produce. In cases of production contracts where resources are provided to farmers, some tend to divert them for re-trading or for use in other farming enterprises. This is not always the case but it depends on the incentives in place and how the contract is enforced.

Additional operational costs are incurred when trying to coordinate farmers who are scattered over a wide region. In cases where an agent has to be employed to coordinate farmers, agents' fees and agent monitoring costs are incurred. Incentives for the agent have to be well structured in such a way that there will be minimal to no defaulting.

Since contract farming is viewed by some authors as an exploitative relationship, contracting companies risk undermining their corporate image in cases of non-compliance with the contractual agreements.

Flexibility in product sourcing is lost in some cases. This in particular will lead to poor competitive edge in cases where the contractual buying price is higher than the market buying price of the same product. With availability of an effective public framework such as insurance,

such possibilities are kept at bay. However, all such noble intentions can be wiped out because of poor macro-economic stability in developing countries.

## 2.8 SUSTAINABILITY OF CONTRACTUAL ARRANGEMENTS IN AGRICULTURE

There are a number of factors that have been cited in the literature that influence the success of contract farming, which include the issue of collective action, contract enforcement, household dynamics and external activities, niche markets and property rights regimes.

### 2.8.1 Collective action and social capital

Contractual arrangement in agriculture can best survive where there is strong social capital, which includes trust, relations, co-operation and networks of solidarity (Kirsten and Sartorius, 2007; Porter and Phillips-Howard, 1997). Networking norms reduce opportunistic behaviour, transaction costs and increases trustworthiness. The importance of social capital can be linked to scarcity of information in prevalence of missing markets and dysfunctional governments. Some empirical studies showed that social capital has benefits, such as increased efficiency in the form of larger sales and gross margins in Madagascar (Fafchamps and Minten, 1998); increased income through group membership in South Africa (Maluccio and Haddad, 2000) and increased productivity capacity and market accessibility of small-scale farmers in Kenya (Bradbury, 2006). However, relations based on family and friendship raise the incidence of contract non-performance, non-confrontational methods of dispute resolution and often end up in face-saving compromises.

Farmers can group themselves and form commodity associations, which can give them more bargaining power. Without an institutional means of venting problems, smallholder farmers communicate with management through subtle forms of protest (Little and Watts, 1994). Subtle forms of protest include among others, elements such as paying less attention to a contracted crop or leaving pest and diseases to invade the contracted crop. Through collective action, farmers can achieve economies of scale in bulk buying of inputs and selling their products. Also, through collective action contract enforcement can be achieved through peer-pressure when farmers have an opportunity of seeing the best practices from their peers. Produce quality and

quantity conformity can be achieved through peer pressure. This in fact removes the need for a third party enforcement agent. Through this, monitoring costs are drastically reduced. In South Africa, the fact that there are communal property rights characterised by non-tradability of rights provides an opportunity for farmers to come together and pool resources for improved welfare. Despite all these positive aspects, coordination crises might emerge when the group is large and tendencies of free riding are imminent.

### 2.8.2 Contract enforcement

Legal enforcement of contracts is problematic in most poor economies due to weak states and poor legal and judicial systems. Many agreements facilitating exchange take the form of relational contracts that are usually not legally enforceable but rely on social relations between the contracting parties (Schwartz, 2003). Government should play a crucial role in developing legislation and creating a conducive environment for contract farming. However, many contracts can be performed even if there were no legal sanctions for contractual breach, as some contracts are self enforcing, where the gains from breaching the contract are outweighed by the expected profit stream (Schwartz, 2003). Contract enforcement has to be operationally and financially feasible (Da Silva, 2005). Where public frameworks for contract enforcement are missing, most agribusiness companies try to enforce contract compliancy through employing full-time monitoring agents.

### 2.8.3 Household dynamics and external activities

Household dynamics play a crucial role in the sustenance of a contract. This could be the partial answer to why some of the farmers engage in contractual arrangements. Household dynamics involve variable such as off-farm income, pensions and grants, the number of dependants in the family, level of education, general wealth levels, gender roles, asset ownership and property rights.

Off-farm activities bring in substantial income and social networks that are crucial to farm operations. Off-farm income augments farm income and in many cases farmers buy farm implement using off-farm income saved over a period of time.

In some cases reported in the literature, women were found to be the growers although they do not have ownership of the land they till, hence contractual agreements are made and signed by men. In a study done in South Africa by Porter and Phillips-Howard (1997), it was found out that man had control over the payments from contract although they have never set a foot in the field. Adequate rights for both men and women should be catered for in the designing of a contract.

### 2.8.4 Property rights (land)

Property rights are fundamentally a social relation; they are not about the link between a person and anything but rather about the relations between people with regard to something. Unclear land tenure leads to difficulties in trading rights and consequently results in incomplete contracts. Unless people respect ones' property, they are meaningless. A notable example is the case of Zimbabwe, where there are no well defined and secure land property rights. New owners of land are not certain whether the land they own will be theirs in future. This ultimately has resulted in poor farm decision making and lack of long-term commitments to conditions of exchange.

South Africa land tenure system is characterised by private land ownership, communal land ownership, and state property. In private ownership, owners are free to trade or lease their land while on communal property, trading land is difficult since owners do not have title deeds to the land they use. State property is where land belongs to the government. Most farmers with freehold or private land ownership can easily get into contractual relationships with buyers because they are free to do whatever they want with their land, whereas those on communal property and state land are not free to enter into contractual relationships without a second or third party consent.

## 2.9 A SYNTHESIS OF CONTRACTUAL ARRANGEMENT STUDIES DONE IN SOUTH AFRICA

This section summarises studies that have been conducted in South Africa particularly on the nature of the contractual arrangements, the methodology or methodologies employed and the key recommendations and results. Table 2.1 at the end of this chapter highlights some of the studies conducted in South Africa on contractual arrangements.

Most of the studies were carried out using the case study approach and they were highly exploratory and qualitative in nature. However, they varied in commodities under contractual arrangements. Commodities such as timber, sugarcane, beef, poultry and eggs are mostly procured through contractual arrangements and in most cases production contracts are used. Whereas produce such as vegetables are procured mainly with market specification contracts.

Agribusiness companies have shifted procuring from the traditional fresh produce markets to preferred supplier schemes. This came in light of increased transaction costs. Through preferred supplier schemes, Agribusiness companies can easily enforce adherence to stipulated growing standards and quality standards. These schemes are well pronounced in the commercial agricultural sector. Various ways have been suggested to enable smallholder farmers to reduce their transaction costs and trust played a significant role in reducing transaction costs. Also, the Agri-BEE policy played a significant role as an incentive for agribusiness companies to procure from smallholder farmers.

Most of these studies are comparable to methodology that was used for this thesis. A case study approach was used to assess the contractual arrangements between agribusiness companies and smallholder farmers in the Winterveld region. The commodities under contractual arrangements were leafy vegetables and oranges (valencias and navels). A detailed research methodology and approach is given in the following chapter.

## 2.10 SUMMARY

The dual nature of South African agriculture with noticeable dominance of large-scale commercial farmers has led to development of strategic supplier schemes which supply central distribution centres for most of the leading agribusiness in the country. Through lack of public standards, stop gap measures (private standards) have emerged, which most smallholder farmers are incapable of sticking to. The need for guaranteed quality supplies amid missing public standards has led to vertical coordination and integration of activities in most agricultural supply chains. Vertical coordination and integration are characterised by both implicit and explicit contracting. Contracting as an institutional arrangement governing exchange guards against the risk and uncertainty in the market which manifest in price, quality and quantity and against

missing idiosyncratic input and output markets. However, contract sustainability in most developing countries is mainly affected by the lack of public frameworks for contract farming. It is also crucial to note that contracting should not be viewed as a "one size fits all" solution for the improvement in accessing markets. Critical success factors in coordinating and enforcing contracts have to be assessed.

**Table 2.1: Studies conducted in South Africa on contractual arrangements**

| Author (s) | Paper title | Year | Methodology/ Methodologies | Recommendations and conclusions |
|---|---|---|---|---|
| **Kirsten, J.F. and Sartorius, K.** | Contracts and contract farming as a potential mechanism to improve market access for black farmer in South Africa | 2006 | Exploratory research conducted through telephonic and electronic survey | **Findings**<br>1. Majority of commodities appeared to be procured through some form of production or marketing specification contracts<br>• 100% of South Africa tobacco, sugarcane, cotton, timber, meat poultry and eggs are secure by some form of contracting<br>• 78.5% of all fruits and vegetables processed are procured by some form of contracting-usually a preseason marketing and price arrangement.<br>• In many instances , however, contracting relies on informal agreements or "hand shake deals" and trust to secure long term supply<br>• In many transacting processes black farmers producing smaller volumes are excluded from potential market opportunity.<br>2. Although procurement of agricultural produce from black farmers forms part of the national priorities South Africa has no specific vision or policy to promote business linkages<br>**Recommendations**<br>1. There is need for agribusiness to invest in smallholder agriculture to lessen transaction cost<br>2. There is need to protect power imbalances in trading<br>3. There is need for a legal system that is capable for guaranteeing contractual enforcement |
| **Biénabe, E. and Vermeulen** | New trends in supermarket procurement systems in South Africa: A case study of local procurement schemes from small-scale farmers by rural based retail chain stores | 2007 | Exploratory qualitative case study approach.<br>• Aided by the use of structured and semi structured questionnaire | **Findings**<br>1. Factors affecting up scaling and or replication of this type of procurement relates to operating in a remote emerging market<br>2. Franchises stores with flexible procurement options rather than relying solely on the central distribution warehouse.<br>3. Proximity to the chain store influenced the Franchise store to contract the farmers<br>4. Franchise stores extended credit lines to farmers<br>5. Agreeably both transacting partners benefited from the contractual arrangements and these includes among others;<br>• Improved farming incomes (farmer) |

| | | | | |
|---|---|---|---|---|
| | | | | • Low cost of procurement of fresh vegetables-short supply chains (franchises)<br>• Agribusiness community strategy-social responsibility (franchises)<br>**Recommendations**<br>1. There is need for private and public partnerships in development of critical skills at community level so as to improve small-scale farmers to sustain beneficial participation in the market. |
| **Kirsten, J. and Sartorius, K.** | A framework to facilitate institutional arrangement for smallholder supply in developing countries: An agribusiness perspective | 2007 | Exploratory case study for Southern Africa in the sugarcane and timber agricultural sector | The study was developed on the basis of two questions<br>1. How can smallholder farmers overcome the barriers of market participation due to changes that came with trade, industrialisation and supermarket revolution? And<br>2. How can smallholder farmers reduce their transaction costs<br>**Findings**<br>1. A transaction cost framework incorporating the presence of trust, demonstrated how the transact characteristics of supply influence the choice of governance structure<br>• Trust played a significant role in reducing transaction cost in a developing country context because a wide range of other factors contribute to pragmatic stable supply arrangements<br>**Recommendations**<br>1. Further research on situations as well as investigating the procurement of raw commodities from different types of contract with smallholder farmers like the equity-share schemes. |
| **Sautier, D., Vermuelen, H., Fok, M. and Biénabe, E.** | Case studies of Agro-processing and contract agriculture in Africa | 2006 | A case study approach of which South Africa was part of the study | **Findings**<br>1. Most agribusiness were by passing the National Fresh Produce Market (NFPM) through the use of preferred supplier schemes<br>2. The Agro-BEE policy is acting as an incentive for agro-processors to procure their requirements from smallholder farmers<br>**Recommendations**<br>1. Research on ways in which small-scale farmers can be coordinated in a wide range of both formal and informal procurement relationship<br>2. New initiatives to foster farmer cooperation and overcome historical legacies must be combined with a common vision for the role of all the players in the agricultural sector. |

# CHAPTER 3

# RESEARCH DESIGN AND METHODOLOGY

## 3.1 INTRODUCTION

The purpose of this chapter is to give some information about the study area and justification for the choice of study area. The chapter also describes the methodologies that were applied, sampling procedures, data collection and analysis. A case study approach has been employed in this study and most of the data are qualitative in nature. The theoretical framework introduced towards the end of this chapter serves as a basis for the empirical analysis conducted in Chapter 5 of this study.

## 3.2 CHOICE OF STUDY AREA

The choice of the Winterveld region as the study area was prompted by a number of reasons. Firstly, the availability of smallholder farmers who are homogenous in terms of the land size holdings and some incidence of smallholder farmers with contractual arrangements with their buyers. Secondly, the Winterveld is located some 40 kilometres north of Pretoria. It is often referred to as the Winterveld Agricultural Settlement and its proximity to the high density suburbs of Shoshanguve and Mabopane poses a great potential demand for agricultural produce and the possibility of contractual arrangements between farmers and agribusiness companies as well as hawkers or vendors. This area was reclassified in 1936 for extensive farm units belonging to whites as leased areas. Land speculators bought the land and subdivided it into smallholdings of 5-morgen plots which were subsequently sold to Africans for small-scale farming (Horn, 1985). There is a total of 1 658 five-morgen plots with over 384 000 inhabitants. A very small proportion of the plots are used for agricultural purposes; most plots are used for residential purposes. A farmers' listing from the NDA revealed that there are only 74 smallholder farmers in the area. Most farmers in the Winterveld are smallholder farmers in citrus, vegetable and livestock (cattle farming). Finally, the existence of organised farmers (Winterveld United Farmers Association (WUFA)) also prompted the choice of study area. As alluded to earlier, in

Chapter 2, organised farmers are easier to transact with because they lower transaction costs, particularly in search and screening costs. So it is likely that contractors are willing to transact with them. Initially, this association was formed primarily to assist smallholder farmers in citrus growing, but its organisational purpose soon grew to cover a lot of other farming enterprises, including vegetables, livestock and vermiculture. WUFA started with over a 100 farmers but now there are only 65 active members. Box 3.1 below briefly describes the Winterveld and the history of WUFA.

**Box 3.1: History of WUFA**

Winterveld, one of the poorest areas in Tshwane and an area plagued with unemployment, was given a new lease on life when it was discovered that it has huge potential for the growing of citrus trees.

The Winterveld area, which consists of 1 658 plots ranging in size from five to ten morgen, was originally sold to black farmers in the 1940s on a freehold basis. The land lay dormant for many years. With no technical or practical support from government or the private sector, the landowners merely rented out their plots to tenants as a source of income. However, this all began to change when Dr Sam Motsuenyane discovered that the Winterveld area has immense agricultural potential and is well positioned to grow citrus trees.

By Dr Motsuenyane's deductions, the environment in Winterveld would be conducive to the growth of all types of citrus trees. After discussions with the national Department of Agriculture and some farmers from the ten-morgen plots, a long-term plan for agricultural development was formulated, and the farmers were encouraged to start a farmers' association – now the Winterveld United Farmers Association.

With the help of the private sector, a citrus project was launched on 24 July 2002. One thousand orange trees were planted, and the numbers have since increased by the thousands. The Executive Mayor of Tshwane attended two tree-planting ceremonies, and subsequently requested the Municipality's Local Economic Development Division to get involved. The Municipality also pledged funding for the project. The input of the Municipality contributed to the 12 200 trees planted to date.

One of the objectives the farmers' association had was to plant 10 000 trees for agricultural production. The farmers involved were asked to take responsibility for planting the trees and looking after them, and for establishing a small packaging and processing plant to package and distribute the fruit when they were ready (this would happen in 2005, as orange trees take three years to yield their first harvest).

The project is multifaceted, benefiting not only the farmers who are directly involved in the project but also the community at large. Jobs are being created, which will improve socio-economic conditions in the area and therefore the lives of the residents. The project presents opportunities for entrepreneurs to invest or otherwise get involved in it. The more than 12 000 trees should yield a million oranges a year. If each farmer with 100 trees produces 1 400 bags and sells them for R7.50 each, the annual income for each farmer is R10 500.

Dr Motsuenyane was appointed project leader, and the executive of the farmers' association handles the finances with the help of a registered corporate structure. When the project was started, a training programme was presented for the farmers. It covered institutional management, business skills and functional enterprise skills. The training was presented over a period of time, so that the farmers' progress could be monitored and they could be given the right support when they needed it. Training in and assistance with such things as fencing, fertilisation and the packaging, classing and cleaning of the fruit are all part of the medium- and long-term phases of the project.

Donations to initiate and develop the project came from the Muslim community of Laudium and the Tshwane Metropolitan Municipality in six phases between 24 July 2002 (when the first tree-planting ceremony was held) and 27 September 2003 (when the final ceremony took place). Individuals from the private and public sector and dignitaries attended the ceremonies, including Father Smangaliso Mkhatshwa, the Executive Mayor of Tshwane, and members of his Mayoral Committee. Before the last tree-planting ceremony, Mrs Fazila Docrat, Acting Chairperson of the Mayoral Consultative Process, with the help of Mrs Mirriam Ismail, another resident, raised R30 000 to buy 2 000 trees for the project and food for that ceremony. A TV was donated by Mr Mohamed Adam for a presentation on the Winterveld Citrus Project at the ceremony. Through the active participation of the community of Laudium, a total of R361 500 was donated at the function.

On 15 October 2003, the farmers' association, representing the Winterveld Citrus Project and the community, planted eight citrus trees at the Pretoria Muslim School as an expression of their gratitude. The project has thus far met all expectations, thanks largely to Dr Motsuenyane's hands-on supervision and the participation and support of the community at large.

Source: Adapted from [Online] Available at: http://www.tshwane.gov.za/News-CitrusTrees-06Mar06.cfm html. [Accessed: 2010-11-04]

## 3.3 CHOICE OF SURVEY METHODOLOGY

A case study approach was employed with the aid of structured and semi-structured questionnaires to address the research objectives in the study area (Winterveld). Following studies of the same nature being conducted in Limpopo province (Tzaneen) and in Western Cape

there was a need for such a study to be done in Gauteng where there is certainly a high demand for agricultural produce and complex consumer preferences. This will aid in cross-sectional analysis and comparison of contractual arrangements within South Africa's provinces.

## 3.4 DATA SOURCES AND DATA COLLECTION

Primary data were collected from three main data sources, which were the farmers (contracted and non-contracted), agribusiness and key informants. Data were collected from Winterveld smallholder farmers, using structured questionnaires. Semi-structured questionnaires were administered to agribusiness companies transacting with Winterveld smallholder farmers and to key informants. The technique of triangulation was employed to compare the three main data sources. Most of the data are qualitative in nature with a substantial amount of quantitative data especially on production costs, farm income, quantity sold and output prices.

Primary data were collected by the researcher in the Winterveld region between June and November 2010 using personal interviews. A structured questionnaire was designed, field tested and finalised in the study area. The questionnaire covering among other variables, household characteristics, marketing channels, cropping patterns, output of produce, crop incomes, farm assets, proximity of the farmer to physical infrastructure and the market was used to collect data from farmers (See Annexures 1, 2 and 3). Both contracted farmers and non-contracted farmers were interviewed. Non-contracted farmers represented the control group of the sample and were sampled based on their similarity to contracted farmers in terms of socio-economic characteristics.

## 3.5 SELECTION OF CASES

Purposive or judgmental sampling was applied to WUFA farmers where a farmer listing existed and to the control group which was characterised of exclusively non-contracted farmers. The use of purposive sampling implies that only smallholder farmers with certain socio-economic characteristics were interviewed, which enabled the researcher to inform his research objectives. Purposive sampling is a non-probability technique and is good for small sample sizes.

Due to seasonality in contracting[2] and lack of contracted farmers' listing, snowball sampling[3] was also carried out in such a way that those hard to find previously contracted farmers were sampled and interviewed. However, there is a disadvantage to using this sampling technique because of its heavy reliance on social capital.

## 3.6 DATA SAMPLING

A total of 50 smallholder farmers were sampled from an existing farmers' listing of 74 farmers which was obtained from the NDA. Within the group of 74 farmers there are 57 farmers that have contractual arrangements and 17 who did not have. Most of the 57 farmers are members of WUFA. All the 17 non-contracted farmers were interviewed, however two of them did not have valid information, while 33 farmers from the contracted farmers were sampled and interviewed. Only smallholder farmers in the Winterveld who were actively involved in the marketing of their produce for the agricultural season July 2009 to June 2010 were interviewed, using a structured questionnaire. Semi-structured questionnaires were administered to agribusiness companies and to key informants in the fruit and vegetable marketing. A total of three agribusiness companies[4] with contractual arrangements with Winterveld smallholder farmers were interviewed.

Only agribusiness transacting with Winterveld smallholder farmers were interviewed. Information supplied by farmers provided the starting point for sampling. Semi-structured questionnaires were administered to agribusiness companies transacting with Winterveld smallholder farmers, which include, Magaliesburg Citrus Company (MCC), Pick and Pay Mabopane Franchise, and Fruit and Veg Mabopane Franchise.

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[2] By the time the survey was carried out some of the farmers were no longer being contracted to the company due to seasonality in production and contracting.

[3] A non-probability sampling procedure in which subsequent respondents are obtained from information provided by initial respondents.

[4] Total number of agribusiness companies transacting with Winterveld smallholder farmers (n=3(100 %)).

Experts in the marketing of fruits and vegetables in the area were interviewed using semi-structured questionnaires. This group consisted of leading vegetable and fruit farmers, National Department of Agricultural officials, hawkers and retail outlet managers.

## 3.7 DATA ANALYSIS

Collected data were cleaned, coded and entered into Excel spread sheets which were later imported into SPSS spreadsheets where statistical and descriptive analyses were done. Data were analysed to answer the research objectives of the study as illustrated below.

### 3.7.1 Research objective one

*To identify and characterise contractual arrangements in the study area*

A qualitative description of contractual arrangements in Winterveld region was carried out with most of the components as variables in the structured questionnaire. Substantial information collected from agribusiness companies in contractual arrangements with farmers also constitutes this detailed qualitative description. This characterisation will include among others; the nature of contract, contract negotiation, price discovery and payment structure, responsibilities of contracting firms and contracted farmers, contract enforcement and conflict resolution and opportunities and threats associated with the contract.

### 3.7.2 Research objective two

*To assess whether asset endowment is a determinant in farmers' capacity to be contracted and which type of assets are determinants*

This objective was addressed through the use of farmer trajectories and analysing variables such as owning non-land assets, how and when they were bought and their source of financing. This was analysed in relation to whether the farmer is contracted or not. This study hypothesises that non-land assets such as irrigation equipment, greenhouses, cold rooms and motorised vehicles are determinants in farmers' capacity to be contracted. It is expected that when a farmer owns

one or more of the above non-land assets he or she is more likely to be contracted than the one who does not own that particular asset. Therefore a positive relationship is expected between owning certain non-land assets and contracting.

### 3.7.3 Research objective three

*To determine how contractual arrangements affect the marketing strategies of smallholder farmers particularly in their capacity to mitigate market price risks*

Structured questions were asked of farmers pertaining to the production and marketing risks they faced for the past five years. Through the use of a control group of non-contracted farmers, comparisons were made into which farmers were capable of mitigating their marketing price risk better than others. It is expected that contracted farmers have more secure markets for their produce with relatively stable prices than non-contracted counterparts.

### 3.7.4 Research objective four

*To assess whether contracting improves smallholder farmers' farm incomes and their own investment capacity*

This objective was addressed through comparison of gross margins of contracted farmers and non-contracted farmers. The major advantage of this approach is that it is very easy to use and understand. However, it excludes the fixed costs and as such it is not a true representative of the net returns from an activity. Furthermore, gross margin analysis is static because it looks at activities of one season, using prices of that particular season. Although gross margin analysis has got its own setbacks, it allows comparison of farmers facing the same economic and environmental conditions. Considering this fact, gross margin analysis can be used effectively as a tool for farm comparison. Due to poor farm record keeping in the study area, only estimates of costs and revenues were used in this analysis.

### 3.7.5 Research objective five

*To assess whether and how contracting improves farmers' capacity to access external resources for investment*

This objective was addressed by analysing whether farmers were capable of getting resources from other sources than the farmer's equity. Structured questions were asked pertaining to farmer's access to external resources such as financial credit, production inputs (both variable and capital) and technical resources (production and marketing information and assistance). It is expected that smallholder farmers who are in contractual arrangements are capable of using their contractual arrangements as collateral when accessing financial credit. This study hypothesises that farmer engaged into contractual arrangements have better access to external resources (financial credit, technical and extension services) than their non-contracted counterparts.

### 3.7.6 Research objective six

*To come up with some policy recommendations on contract farming in the context of mainstreaming smallholder farmers to the formal agricultural markets*

This objective does not require any specific research methods but all lessons learnt from the above objectives forms the basis for the recommendations. The answer to this objective will practically form the last chapter of this study.

## 3.8 LIMITATIONS

One of the limitations in the study area was interviewee saturation because of the fact that the study area is close to a metropolitan city (Tshwane/Pretoria) and this caused interviewees to be reactive.[5] This acted as a threat to the validity of the data. However this was mitigated through structuring clear short questions without ambiguity and probing interviewees where necessary.

[5] Reactivity of interviewees can be through resistance to be interviewed, supplying wrong information, modifying behaviour, and or deliberately misinforming the researcher.

Also there was a high incidence of identity preservation (when companies and individual farmers treated their contractual documents as proprietary). This made it impossible for the researcher to have full information of the contractual clauses, as noted by Sykuta and Parcell (2000) in their study.

Furthermore, most smallholder farmers in the Winterveld region did not have records of their production schedules, which left the researcher with very little quantitative data for analysis. Most of those who were contracted did not have the copies of their contractual arrangements, making it difficult for the researcher to qualify what clauses were in the contractual arrangements. For this reason, there is no systematic analysis of contractual arrangements in South Africa because of unavailability of contractual documents for analysis.

The use of non-probability sampling techniques may limit the applicability or generalisation of the findings. However, validity of data was improved in cases where the contracted farmers were known and probability sampling[6] was possible. Also, the technique of triangulation was applied in order to validate the three[7] main data sources. This was achieved by posing the same questions to the three main identified primary data sources in order to get an accurate picture of the data.

## 3.9 SUMMARY

Following some studies on contractual arrangements in the Western Cape and Limpopo Province, there was a need to carry out such studies in areas close to a large metropolitan city and the Winterveld region emerged as a suitable choice. The Winterveld region is characterised by homogeneous smallholder farmers in terms of land holdings which are either 5 morgen or 10 morgen plots. Most of the land in the region lay idle until the formation of WUFA in 2002, which mobilised farmers into citrus production. WUFA's mandate soon grew out of citrus into other farming enterprises such as crop production and animal husbandry. The incidence of

[6] A sampling technique in which the chance or probability of each case to be selected from the population is known and is not equal to zero.

[7] The three main data sources include: i) Survey data from contracted farmers and non-contracted farmers, ii) survey data from the contracting company or supermarket, iii) Survey data from experts in the field of agricultural produce marketing.

contractual arrangements between Winterveld smallholder farmers and some agribusinesses also prompted the choice of the study area.

A purposive sampling technique was employed where farmers with the same socio-economic conditions were interviewed using a structured questionnaire. Where sampling cases were difficult to find, a snowballing sampling technique was employed. In order to quantify the effects of contracting, a control group of non-contracted farmers was also interviewed using the same structured questionnaire.

Agribusinesses transacting with the Winterveld smallholder farmers were interviewed using a semi-structured questionnaire. Snowball sampling was employed with information supplied by farmers as the starting point.

The technique of triangulation was employed in order to improve data validity. Despite this, there are several limitations to the study, which include among others, interviewee saturation, a high incidence of identity preservation and lack of production records and contractual documents to analyse.

This chapter concludes by developing a theoretical framework for data analysis which forms the basis of the following two chapters.

# CHAPTER 4

# CHARACTERISATION OF AGRICULTURAL CONTRACTS IN THE WINTERVELD REGION

## 4.1 INTRODUCTION

The purpose of this chapter is to characterise all identified contractual arrangements in the Winterveld region. Characterisation of identified contractual arrangements in Winterveld region was based on a general description of the contracting firm and contracted farmers, nature of contract (whether its formal or informal), contract negotiation, price discovery and payment structure, responsibilities of contracting firm and contracted farmers, contract enforcement and conflict resolution and opportunities and threats that are associated with the contract. The criteria for choosing contractual categories were based on the produce under contract. The justification for using the produce was to understand whether product form and inherent characteristics shape the nature of the contract, contract negotiation and payment structure.

Three different types of contractual arrangements have been identified in Winterveld region. All of them are market specification contractual arrangements, but they differ in form, products and contractual agreements. This includes the valencia contract, leafy vegetables contract, navels contract and the public tenders' contract as illustrated in Table 4.1 below.[8]

[8] See Annexure 2 for a detailed categorisation.

**Table 4.1: Characterisation of agricultural contracts in the Winterveld region.**

| Contract type | Contracting firm | Product | Number of farmer* |
|---|---|---|---|
| **Type 1 (Marketing specification valencias contract)** | Magaliesberg Citrus Company (MCC) | Valencias | 28 |
| **Type 2 (Marketing specification contract: leafy vegetables and navels)** | Pick and Pay | cabbages, spinach, onions, navels | 20 |
| **Type 3 (Marketing specification contract: public tenders)** | Gauteng Shared Service Centre (GSSC) | all kinds of vegetables | 5 |

*note: some farmers are contracted to more than one product

## 4.2 MARKET SPECIFICATION MAGALIESBERG VALENCIA CONTRACT

### 4.2.1 General description

Magaliesberg Citrus Company (MCC) was transformed into a public company in 2005 from a cooperative which had evolved from a pack house founded in 1959. MCC is located in the Brits area. The company procures citrus fruits from its contracted farmers and crushes them to produce fruit concentrates, fruit juices and oil. Residues (crushed oranges pills) are sold to an animal feeds company in the area and the oil is sold to pharmaceutical companies. Besides making fruit concentrates and juices, the company also procures other fruit juice concentrates and blends them to make fruit cocktail juices. The company has 12 depots in South Africa, 3 in the SADC region (Lesotho, Botswana and Swaziland) and an international depot in the United States of America. MCC has a board of directors who are chosen from its shareholders.

MCC procures citrus fruits from 100 contracted farmers (both smallholder and large-scale farmers) in the vicinity of 45 kilometres. For a farmer to supply MCC, he/she has to be a shareholder first.

All contracted farmers form part of the shareholding structure of the company and they are invited to the annual general meetings of the company where income and financial statements are revealed. MCC shares are traded to prospective fruit suppliers through their GK Auditors in

Sandton. Only farmers who have proof[9] of supply are capable of buying such shares. One ordinary share is equivalent to 1 ton of fruit that the farmer can deliver and gives the shareholder voting rights and nomination rights for being a board member or director. If the farmer is not able to deliver the fruit, shares may or can be traded to other farmers who are able to.

MCC has a processing capacity of 60 000 metric tons of fruit every year. The company procures a number of citrus fruit varieties which includes lemons, clementines, jusinto, novas, naartjies, navels, primers, midnight, tamboro and valencias.

MCC is an ISO 900 certified company and follows a number of global food quality and safety standards, which include, among others, EurepGAP and HACCP. These standards are enforced by all contracted farmers through full-time citrus extension officers on the company's payroll.

The need for the company to be AgriBEE compliant saw the company engaging in contractual arrangements with smallholder farmers in the Winterveld region. Prior to the contractual arrangement with Winterveld smallholder farmers, MCC used to be supplied only by large-scale commercial farmers in the Brits area who are predominantly white farmers.

The inception of the contractual arrangement between MCC and WUFA saw MCC giving WUFA a total of 300 shares in the company. The agreement was signed by the WUFA representatives on behalf of WUFA citrus farmers. Box 4.1 below describes how WUFA operates.

[9] Physical field inspections are done by MCC personal in order to verify whether the farmer has citrus which is bearing fruit or not.

**Box 4.1: WUFA operations**

Currently WUFA has 65 active member farmers and most of them with valencia orange trees in their orchards. In addition, the organisation has a 34 hectare cooperative farm (Section 21 or Winterveld Cooperative Project (WCP)) mainly growing citrus (80 % valencia and 20 % navels). The cooperative farm is run by a full-time farm manager with close cooperation and monitoring from elected WUFA representatives. Section 21 has a fully furnished pack house with a grading line for oranges. During harvesting period the farm employs up 19 casual workers on a R50.00[10] per day over a period of two months and 12 permanent workers currently. WUFA members with individual citrus orchard during harvesting time bring their navel oranges to WCP for grading, packing and marketing. For valencia oranges farmers bring their fruit for grading in transit to MCC for juice making.

The contents of the contractual agreement between WUFA and MCC are not known by most member farmers although they acknowledge[11] that there is a written agreement. Administration of the 300 shares is in the hands of WUFA representatives and, surprisingly, most individual member farmers do not know of the existence of these shares.

### 4.2.2 Nature of contract

The WUFA-MCC contractual arrangement is a formal market specification contract based on a share system. Theoretically, each contracted farmer is supposed to supply oranges which are equal to the number of shares he or she holds in the MCC. Collectively, WUFA farmers are supposed to supply MCC with 300 tons of oranges each season, which corresponds to the number of shares they collectively own, however they have not yet reached that target. Fortunately their shares have not been traded. In fact shares were given according to the expansion or growth path of WUFA. Farmers have to adhere to MCC specified growing, fertilisation and pest control standards which are enforced by its monitoring agents (extension officers). MCC extension agents visit farmers either upon request or without farmer's request. Failure to comply with such requirements results in fruit rejection and in some cases in trading of share to farmers outside WUFA who are more capable.

[10] Rates for the agricultural season 2009/2010

[11] Source: Survey results

Individual WUFA farmers are not bound by any clause to sell all their fruits to MCC. When they have a better market opportunity, they are free to sell their fruit without any legal consequences or reprimands from either WUFA representatives or MCC.

### 4.2.3 Contract Negotiation

The MCC-WUFA contractual arrangement is not a fixed arrangement; each season a new contractual agreement is negotiated depending on the quantity of fruits the farmers can supply. Between January and June, surveys are carried out by MCC extension staff to determine how much a farmer is capable of producing. This is reached using an agronomic model based on weather conditions. Upon calculating the quantities a farmer can supply, the contract is concluded.

### 4.2.4 Price discovery and payment structure

Marketing of valencia oranges to MCC is done collectively by WUFA farmers. In addition to produce from WCP, individual WUFA farmers bring their valencia oranges to WCP where the quantity brought is recorded and offloaded into bins waiting for freighting. Here accumulation of heterogeneous quality oranges occurs. Traceability of the fruit back to the farmer gets lost since farmers mix oranges. Inasmuch as MCC would like all oranges procured from farmers to have certain levels of growing standards, oranges from individual WUFA farmers' plots are not homogeneous in quality and most of them are grown without strictly following EureGAP standards. Once a certain tonnage has been reached, WUFA representatives communicate with MCC, which in turn sends its trucks to freight the oranges (valencias) for processing. Transport costs are borne by MCC.

Pricing of oranges depends on the acid/sucrose ratio and the internal quality of the fruit. Realised price is also affected by the final selling price of the orange juice. For the season 2009/10, WUFA farmers were getting an average of R4 per 7 kilogram bag[12] of oranges. Farmers do not get paid for other by-products from the oranges such as oil and crushed orange pills. However,

[12] See Table 5.6 in Chapter 5

they are supposed to stick to quality regulations in their production cycles. If they fail to adhere to these standards, this results in rejection of these by-products, particularly oil, which is used in the pharmaceutical industry. This implies that the additional increase in production costs particularly incurred due to sticking to a number of growing and spraying standards are not realised from the revenue streams of farmers.

Acid/sucrose tests are conducted by the MCC technician and results of the test samples are sent to farmers via emails. For the case of WUFA farmers, samples are sent to WCP farm manager. Most farmers acknowledged that tests are done but they were never communicated to them by the WCP farm manager and/or WUFA representatives.

Farmers receive their first payment in November after selling their oranges in July, which will be 50 % of the final price, and a subsequent 25 % is payable in March and the balance is paid up in June. The payment structure enables MCC to sell some of its juice concentrates and by-products such that it will be in a position to pay its fruit suppliers (farmers). For WUFA farmers, payments are deposited into the WCP account and subsequently farmers are paid in proportion to what they supplied. This is only payable after a WUFA fee of 5 % of the selling price of a 7 kilogram bag has been deducted. This money is channelled towards the operational costs of WCP. All proceeds from collectively owned oranges are channelled towards the operational costs and capitalisation of WCP. About 90 %[13] of WUFA farmers interviewed acknowledged the fact that they do not understand how the pricing is done and the conditions of payment. They also acknowledged that they only receive payment after a whole year from the date of sale. This has led to the growing disgruntlement among citrus growers in Winterveld region to the extent that some farmers are no longer tending their orchards and consequently resulting in poor fruit quality and quantity. Some are even opting out of the association (WUFA) because of its lack of transparency.

[13] Source: Survey results.

### 4.2.5 Responsibilities of the contracting firm and farmers

MCC employs some extension officers who move around advising farmers on the technical side of production, which includes the type of chemicals to use, doing soil samples, leaf samples and advising farmers on the type of fertiliser to apply, when and how. This is done free of charge for all the contracted farmers. In cases where farmers need specific technical information, they are free to contact MCC at any time. Again, this is done free of charge. Extension officers also advise the farmers to stick to certain growing standards and all spraying records have to be kept and shown by the farmer upon request. This is done in order to meet food quality and safety standards since the company exports some of its products to international markets and some of its by-products are used in the pharmaceutical industry. However, it is important to point out that for individual WUFA farmers such information and technical advice is only imparted to them by their representatives in their monthly meetings. There is no direct exchange of technical information between individual WUFA farmers and MCC extension officers. Advice and field visits are restricted to the WUFA cooperative farm (Section 21/WCP). Technical information is expected to be copied from WCP by individual farmers.

No credit advancement or advance payments are extended to farmers by MCC. Farmers foot production costs on their own except for technical information which is free. However, WUFA got substantial grants from both public and private sectors and these include the Kellogg Foundation, Tshwane Fresh Produce Market, North-West government, the Muslim community in Laudium, Pretoria, the National Development Agency (NDA) and individuals from the private sector. These grants have been used to finance capitalisation, buying land, operational capital for WCP and WUFA and buying citrus tree seedlings.[14]

### 4.2.6 Contract enforcement and conflict resolution

In order to avoid tendencies of free riding on the quality of oranges, WUFA quality controllers at the cooperative farm (WCP/Section 21) do visual quality checks before accepting oranges. However, this does not uproot elements of free riding, since most of the quality controllers are

[14] Refer to Box 3.1 in Chapter 3

locals with relations with some of the farmers. In many cases non-confrontational methods of reprimand are at play.

In cases of farmers failing to meet the required product quality, quantity and specified growing standards, the farmer is advised that his or her share(s) may be traded to prospective shareholders. This is done by MCC's GK auditors in Sandton. Since some of the farmers are board members, there is transparency and accountability on the part of the company to farmers. In the case of WUFA farmers one of their representatives sits on the board of directors of MCC; however, farmers still do not know the trading position of their shares. This in particular is posing a great threat to the long-run sustainability of the contractual arrangement. Some of the farmers are venting their anger in subtle ways like ignoring tending their orchards and selling as much as they could to markets other than the MCC when opportunity arises.

Neither MCC nor farmers are in a position to take legal recourse in cases of contractual failure, non-compliance or non-performance. There is no legal clause that binds transacting partners to certain exchange conditions. This leaves both transacting partners with room for strategic defaulting when conditions do not suit them well.

### 4.2.7 Opportunities of the contractual arrangement

There are a number of opportunities associated with this contractual arrangement, which include, among others, that farmers gain from improved production methods, a secured market and a potential of capacity to investment in improved farming systems. Through technical information which is given free of charge by MCC extension officers, if farmers follow it, they can enhance their production methods, which in turn results in increased volumes and quality that a farmer can produce.

Furthermore, MCC provides farmers with a secured market where in particular farmers can sell large volumes at a time. Although MCC offers WUFA farmers relatively low prices[15] per unit

[15] See Table 5.6 in Chapter 5.

compared to other alternative markets, it acts as a sink market where farmers can sell large volumes considering that supply of oranges at the time of sale will be high.

### 4.2.8 Threats of the contractual arrangement

Like any other contractual arrangement, WUFA/MCC arrangements are subject to some contractual risks. Firstly, there is very little disclosure of contractual agreements to individual WUFA farmers, although most of the WUFA representatives acknowledged they understand what the arrangement entails. This non-disclosure of contractual information and trading position of the 'alleged shares' has led to poor performance of the contractual arrangement. As alluded to earlier on, farmers are venting their frustration in subtle ways.

Secondly, the fact that WUFA farmers only receive payments once, after a whole year from date of sale, also contributes to non-performance of the contractual arrangement. This has crippled many farm operations and overstretches the already overstretched financial resources of the smallholder farmers. The WUFA/MCC contractual arrangement locks farmers' land out of other profitable enterprises. Citrus is a perennial crop, and orchard establishment is a sunk cost to the farmer. In fact this implies that farmers are bound to lose in case of poor produce pricing in the market. This is particularly true for all valencia farmers in the region, who rely heavily on MCC as their sole buyer of large volumes.

## 4.3 MARKET SPECIFICATION CONTRACT: PICK AND PAY NAVELS AND LEAFY VEGETABLES

### 4.3.1 General description

Pick and Pay is one of the leading South African retail supermarkets, operating in a number of countries in Africa. The Pick and Pay Mabopane franchise was opened in 2005 to serve the Mabopane and Soshanguve areas and it was the first ever black owned franchise store. Mostly, Pick and Pay stores procure their agricultural merchandise from their Central Distribution Warehouse (CDW) in Johannesburg, but as part of their social and corporate responsibility, some

of its franchise stores can also procure vegetables and fruits locally from both smallholder and large-scale farmers.

When procuring locally from smallholder farmers, Pick and Pay does not use its strict food quality and safety standards; instead most of the standards will be relaxed. Produce from smallholder farmers in Winterveld is not subjected to strict food quality and safety requirements. This, in particular, lessens transaction costs for smallholder farmers and makes it easier for them to supply vegetables and fruits.

Pick and Pay procures its vegetables and fruits from both small-scale and large-scale commercial farmers with both implicit and explicit contracts respectively. For smallholder farmers in the Winterveld, both individual farmers and collective farmers (WUFA members) are free to supply Pick and Pay with navels and vegetables as long as they meet the quality and quantity requirements. However due to the very small portions[16] of the plots under vegetable production, most smallholder farmers in Winterveld fail to meet the quantity requirements of Pick and Pay. This has prompted procurement from nearby large-scale farmers with formal agreements. On the other hand, Pick and Pay procures most of its navel orange requirements from smallholder farmers in the Winterveld region.

### 4.3.2 Nature of the contract

This is an informal contractual arrangement where contract closing is done after some visual inspection of fruits and vegetables by Pick and Pay buyers. There are no written contractual documents; the contract is verbally concluded. Each contract varies depending on quality of produce and its relative scarcity in the market.

[16] An average of less than a quarter of a hectare is dedicated to vegetable production. For the four kinds of vegetables in the survey cabbages had an average of 0.11ha, spinach with an average of 0.2ha, onions with an average of 0.12ha while lettuce had an average of 0.02 ha. Source: Survey results

### 4.3.3 Contract negotiation

Individual farmers bring their vegetables samples to Pick and Pay, where price negotiations are done and these vary depending on the quality of the vegetables the farmer has brought. Quality of vegetables is qualitatively measured with parameters such as colour, freshness and size. Volumes to be traded depend on how much the farmer has at the time of contract negotiations. Required quality has been communicated to smallholder farmers in Winterveld through Pick and Pay Foundation sponsored farmer training workshops. Not all smallholder farmers supplying Pick and Pay attended these workshops, but it was expected that peer pressure and social networks would convey the information to non-participants.

For WUFA navel farmers, through their representatives, prices are negotiated with Pick and Pay buyers according to the quality and volumes of oranges they can sell. This is done every season when the harvest is ready. A schedule of delivery is set and the conditions of packaging are prescribed to farmers by Pick and Pay. Although packaging is prescribed, navels are sold with WUFA brand name Bosele.[17] There is no written proof that legally binds either the supermarket or the farmers to any terms of exchange.

### 4.3.4 Price discovery and payment structure

WUFA farmers collectively lobby for a certain benchmark price and members individually makes some contacts with Pick and Pay pertaining to the kind of vegetables they have. In fact the farmer has to take vegetable samples to Pick and Pay where further negotiations on price resume depending on the quality of vegetables. Payments are made a week later and are paid directly into the farmer's account or direct cash payment is made to the farmer.

For non-WUFA farmers, contract negotiation is done individually. Samples of vegetables are taken to Pick and Pay where price negotiations are done. After negotiations, farmers transport their vegetables to Pick and Pay where they get a receipt of delivery. Payment is made directly into the farmer's account after a week or direct cash payment is made to the farmer.

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[17] *Bosele* is a Sotho word meaning 'stand up and do something'.

Leafy vegetables are sold in bundles of 25-30 leaves. Size of the produce matters most for cabbages, lettuce and onions. For the season 2009/10, a bundle of spinach was going for an average of R2.50, which is almost half of what the farmer gets when selling at the farm gate or to hawkers.[18] Although farmers realise low prices, it is important to note that they can sell large volumes at a time to Pick and Pay, compared to any other alternative markets.

For navel farmers, marketing is done collectively. In addition to the navels produced on the cooperative farm (WCP/Section 21), individual WUFA farmers bring their navels to WCP where polishing, grading and packaging is done. The quantity of fruit sent by the farmer is tallied to his name for payment purposes. Traceability of fruit back to the farmer is lost since oranges are mixed. When a certain volume is reached which Pick and Pay and WUFA representatives have agreed on, Pick and Pay sends its truck to pick up the oranges, and farmers are not charged for transport costs incurred.

Payment is made a week later and is paid into WCP's account. Individual WUFA farmers only get paid after value addition expenses have been deducted. In addition to that, a 5 % fee per 7 kg bag selling price is deducted, which is channelled towards WCP operational costs. Farmers' revenue is proportional to the amount of fruit they have sent to WCP. Selling price is mainly influenced by the market forces at the time of exchange and in many cases Pick and Pay uses TFPM produce prices as benchmarks.

All revenue from collectively owned navels (that is from the WCP farm) in the meantime is channelled towards WCP and WUFA operational costs and farm capitalisation. Plans for the future are that farmers will get dividends at the end of each trading season.

### 4.3.5 Responsibilities of contracting firm and farmers

Pick and Pay does not assist farmers directly with inputs and/or technical assistance. However before Pick and Pay opened its branch in Mabopane, its foundation in Cape Town drilled some

[18] See Table 5.6 in Chapter 5

27 boreholes for smallholder farmers in Winterveld and sponsored some farmer training workshops.

In some cases, Pick and Pay acts as an inputs market for farmers. Pick and Pay sells a variety of vegetable seeds and garden tools, and farmers frequently buy some of their farm tools and seeds, although not on a large scale. This offers smallholder farmers great convenience since most of the agricultural inputs retail shops are as far as 40 kilometres away from the Winterveld. Pick and Pay does not offer credit or advance payments to farmers.

### 4.3.6 Contract enforcement and conflict resolution

WUFA employs quality controllers at its cooperative farm, where oranges are polished, graded and packed. There are strict quality controls in place to avoid free riding; however, elements of non-confrontational methods of reprimand on quality exist since quality controllers are locals and in some cases are related to farmers. This means that elements of opportunistic behaviour and free riding on fruit quality are prevalent. Nonetheless, failure to meet quality requirements as prescribed by the quality controllers results in rejection of fruit. WUFA in particular lowers transaction costs for Pick and Pay.

Through the benefits that the Winterveld community got from Pick and Pay (boreholes and sponsored farming workshops) interviewed farmers felt obliged to supply Pick and Pay with the best quality of fruit and vegetables they have. This contractual arrangement is hinged on trust, loyalty and reputation.

### 4.3.7 Opportunities of the contractual arrangement

The Pick and Pay contractual arrangement enables farmers to sell large volumes at a time, although realised prices are normally low as compared to other alternative markets. This is quite advantageous to farmers, however, since most vegetables rapidly decline in quality once they reach maturity. Furthermore, most of the farmers do not have post harvesting handling facilities at their farms.

### 4.3.8 Threats of the contractual arrangement

Most farmers interviewed complained about unfair business practices by Pick and Pay at their expense. For instance, a bundle of spinach bought by Pick and Pay for a meagre R2.50, is sold for over R7 to consumers. In fact, the 25-30 leaves spinach bundle is split into two and sold for R3.50 each to consumers after adding a 99 cents mark up.

On the other hand, in many cases smallholder farmers in the Winterveld supply only meagre quantities which in particular increases Pick and Pay's transaction costs, particularly when they have to search for alternatives sources to augment the little that has been supplied.

Visual inspection of quality with no set and written quality standards or parameters creates a lot of discontent among farmers, which in some cases farmers interpret as favouritism, for example, if one farmer gets a better price than another for the same type of produce.

With no written contractual obligations between transacting partners and very low switch on and off costs, both partners are left with room to explore profitable business ventures outside the contract. This in some cases leads to non-performance of the contractual arrangement.

## 4.4 MARKET SPECIFICATION CONTRACT: PUBLIC TENDERS

### 4.4.1 General description

Through the Agricultural Black Economic Empowerment (AgriBEE) policy initiative of the Government, some smallholder farmers in the Winterveld region got into some contractual arrangements of supplying Gauteng hospitals with all kinds of vegetables. This was done as an endeavour to empower smallholder farmers by improving their market access. Farmers had to bid for the tendered services by the Gauteng Shared Service Centre (GSSC). Upon getting such tenders, farmers had to undergo an intensive training programme in food hygiene, quality and safety. This was done for free to those farmers who had won the tender.

Public tenders for supplying Gauteng Hospitals with fresh vegetables were advertised in the public media and through help and advice from the DAFF, five smallholder farmers in the Winterveld won the tenders. In fact, the DAFF was involved in the selection of farmers who

were capable of producing the required quality and quantity and the selection hinged on whether or not the farmer had a greenhouse and reliable motorised vehicle. The DAFF supplied information about government tenders and helped farmers with business plans and cash-flow projections required for them to win the tenders. When the farmers won the tender, conditions of the service to be delivered were sent to them, which they had to accept or reject and forfeit the contract.

Only smallholder farmers with certain non-land assets such as greenhouses, irrigation equipment and reliable vehicle(s) were contracted. This pre-selection bias is backed by the presumption that farmers will be able to produce the required quality of vegetables and at the same time will be able to transport them to the hospitals while they are still fresh. All the smallholder farmers in this contractual arrangement are WUFA member farmers.

### 4.4.2 Nature of contract

This is a formal fixed contractual arrangement. The contract runs for 3 years and prices are reviewed after every 6 months. Contract renewal is subject to farmers' performance. The value of the contract or tender is also stipulated; however, vegetables to be supplied depend only on the needs of the hospital to be supplied. Each month, the hospitals which the farmer is supposed to supply with fresh vegetables send an itinerary showing stipulated vegetable volumes, quality and form. The initial arrangement was for the farmers to supply their own vegetables but in many cases, where the farmer does not have the vegetables, he or she has to outsource. Outsourcing can be done from other farmers but farmers mostly prefer the TFPM where they get a variety of vegetables under one roof. This contractual arrangement started in 2009. The arrangement is legally binding and in case of failure to meet the contractual obligations, the GSSC and/or the farmer are capable of taking a legal recourse to claim business lost due to non-compliancy.

### 4.4.3 Contract negotiation

Contract negotiation is done every 6 months and renewed after 3 years. Negotiations are done collectively by contracted farmers with GSSC, but contract signing is done individually by

farmers. Only WUFA member farmers got contracted. This might hinge on lessening transaction costs particularly for GSSC

### 4.4.4 Price discovery and payment structure

Farmer received inflation adjusted, fixed prices for their produce for a period of 6 months. At the end of each 6 months they meet the GSSC for new price negotiations and reviews. In most cases prices from the Tshwane Fresh Produce market are used as benchmarks.

After each delivery of vegetables to the hospital, farmers get a delivery receipt which they use to invoice GSSC. Payment is done within a month after delivery, direct into farmers' accounts.

### 4.4.5 Responsibilities of contracting firm and farmers

GSSC does not extend financial credit or offer advance payments to farmers, but farmers got training on food hygiene and safety for free before starting supplying vegetables to the hospitals. Furthermore, these farmers enjoyed free greenhouses and irrigation equipment from the National Department of Agriculture.

### 4.4.6 Contract enforcement and conflict resolution

In cases where the farmer or GSSC is failing to meet the contractual obligation, transacting partners are in a position to take legal recourse. Poor performance by farmers will only dent their chances for contract renewal. In fact, this acts as an indirect enforcement mechanism for the farmer's compliancy, since GSSC offers the best price[19] compared to other markets.

### 4.4.7 Opportunities of the contractual arrangement

This contractual arrangement gives an opportunity for farmers to improve their income. Usually prices are far higher than those of other alternative markets. This in particular capacitates farmers

[19] See Table 5.6 in Chapter 5

in improving their farming system and investing in value addition. For instance, some of the farmers are adding value their vegetables through chopping and peeling before delivering them to the hospitals. This is mostly preferred by hospitals because they require ready to cook vegetables which reduce their operational costs significantly.

### 4.4.8 Threats of the contractual arrangement

Fixed prices for a period of 6 months act as a potential price risk for farmers considering the volatilities in food prices. This is particularly a problem to farmers when they do not have the vegetable type on their farms. Outsourcing when the supply of the product is scarce is sometimes so expensive that all the benefits from high prices will be swept away.

Furthermore, the design of this contract was not well structured[20] especially in terms of what the farmer has to supply. Fresh vegetables have got a wide variety and form. The contractors (GSSC) were rather too optimistic when they expected the farmers to produce a wide range of vegetables on their plots. In fact, that is why most of the farmers practice outsourcing because they cannot produce according to the varying vegetable demands of the hospitals.

## 4.5 OTHER MARKETS FOR AGRICULTURAL PRODUCE FROM THE WINTERVELD.

### 4.5.1 Introduction

Smallholder farmers in the Winterveld are not only restricted to contractual arrangements when selling their produce. Farmers can also sell their produce at the farm gate, to the community and hawkers on spot market arrangements. In particular, there are three types of hawkers identified in the study area, which are the mobile, semi-mobile and the fixed hawkers. Winterveld smallholder farmers have been transacting with hawkers for over five years and some relational trust has developed. Most hawkers buy their merchandise from farmers on a cash basis, but there are some exceptions where farmers supply their crops and only receive their payments after produce have

[20] See Annexure 2

been sold. In other instances, farmers deliver produce to the hawkers' tables and this is predominant with fixed hawkers. Two-way exchange of information and high frequency of exchange for long periods result in foreclosure of future profitable exchanges, which keeps defaulting at bay.

### 4.5.2 Nature of exchange

This is a spot market contractual arrangement where a transaction is concluded after visual inspection and sometimes tasting of vegetables or fruit has been done by the buyer. In some cases, there is commitment from the part of the hawkers to buy from specified farmers due to repeated interactions and ease of transactions. There are no written agreements. The exchange is based on trust, loyalty and reputation.

### 4.5.3 Price discovery and payment structure

Price of produce is mainly influenced by market forces, but frequent exchanges result the parties knowing each other, which in many cases influences the price of produce. Depending on the level of trust, hawkers have to pay cash upfront, or where trust is high, hawkers can pay for agricultural merchandise later on an agreed date.

### 4.5.4 Responsibilities of exchange partners

Transactions are done at the farm or at the hawker's table. Usually, when transactions are done at the farm the hawker foots the transport costs, while on the other hand when transactions are done at the hawkers' table the farmer bears the transport costs.

Hawkers do not provide inputs, technical assistance or credit to farmers. However, they constantly feed farmers with information on vegetable quality and type consumers are demanding in the market. This helps farmers to plan their production according to consumers' needs and preferences.

### 4.5.5 Exchange enforcement and conflict resolution

Reputation is a major factor contributing to conflict resolution. All transacting parties are concerned with their reputation. For instance, if a farmer gets bad reputation, he or she loses their potential market while at the same time a bad reputation for hawkers only means that his or her procurement sources will be narrowed. Through repeated transactions, foreclosure of future profitable transactions takes place which in many cases acts as a safety valve for contractual failure.

### 4.5.6 Opportunities

Most hawkers pay for their products in cash and this helps the farmers with the much needed finance for their daily operations. Frequent interactions characterised with exchange of information enable smallholder farmers to adapt to changing consumer preferences. Comparably, hawkers offer competitive[21] prices; however, their inconsistence in procuring and their procuring of low volumes act against the farmers if they rely heavily on them.

### 4.5.7 Threats

This exchange arrangement is difficult to enforce legally. Due to relational exchanges, mostly non-confrontational and face-saving mechanisms are at play, and this may lead to contract failure. The prevalence of information asymmetry in the market makes it difficult to guarantee quality and quantity exchanged. Furthermore, prices are not guaranteed for either transacting partner, making it particularly difficult for either party to make decisions. Because there is no guarantee of quality, quantity or prices, transacting partners are bound to have increased transaction costs when they seek to exchange information. However, reliance on trust, reputation and loyalty have been found to minimise transaction costs compared to reliance on litigation and third party arbitration.

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[21] See Table 5.6 in Chapter5

## 4.6 SUMMARY

This chapter has characterised all the identified contractual arrangements in the Winterveld. All were market specifications contractual arrangements and they varied significantly in form, products and contracting firms. Some explicit contractual arrangements were legally enforceable while others were not. No informal contractual arrangements were legally enforceable and were mostly based on trust and loyalty.

There are different motives for smallholder farmers in the Winterveld engaging in the identified contracts. The public tenders' contract is heavily supported by public funds and is highly politically motivated for its sustenance, while on the other hand, the Valencia contract with MCC is motivated by improving the company image and being AgriBEE compliant. The contractual arrangement with Pick and Pay has elements of both commercial orientation as well as political motivation. Procuring locally makes some commercial sense, but at the same time it comes with high transaction costs from low volume capacities and lack of consistency in quality. It also appears politically motivated, especially since dealing with organised farmers like WUFA and selling their oranges with their brand name will only improve Pick and Pay's public image. All informal contracts identified are heavily reliant on trust and loyalty for their sustenance.

Different contractual arrangements have specific contractual opportunities and threats associated with them. A number of opportunities were identified, which included, among others, having access to stable markets, having access to improved technology and the potential of realising high price of output. However, like all contracts in general, agricultural contractual arrangements suffer from incompleteness. Incompleteness varies, from non-disclosure of certain clauses or information in the contractual arrangements to visual inspection of produce quality with no written set of quality parameters. This, in particular, has caused poor performance of some contractual arrangements, since it left room for strategic defaulting among transacting partners.

# CHAPTER 5

# IMPACTS OF CONTRACTUAL ARRANGEMENTS ON SMALLHOLDER FARMERS' IN WINTERVELD REGION

## 5.1 INTRODUCTION

This chapter presents the impacts of contractual arrangements on smallholder farmers in the Winterveld region with reference to among other things farmers' incomes and market access. This was done by assessing farmers' access to output and input markets. Also, analysis of farmers' ownership of land assets was carried out in order to assess whether they are determinants in farmers' participation in contractual arrangements. Furthermore, analysis of marketing price risk was carried out. In particular, agricultural marketing carries a significant risk for farmers. Agricultural marketing is unique in three dimensions. In most cases, agricultural products are bulky and perishable and their pricing and distribution are considered strategic by most governments. Through analysis of prices in each market coordination mechanism, some insight might be gained into whether contractual arrangements improve smallholder farmers' market price risk in the region. Lastly, analysis of farmers' gross farm incomes was carried according to whether the farmer was participating in contractual arrangements or not. This was done in order to ascertain whether or not contractual arrangements improve smallholder farmers' farm income.

## 5.2 ACCESSIBILITY OF MARKETS TO SMALLHOLDER FARMERS IN THE WINTERVELD REGION

### 5.2.1 Access to agricultural output markets

Most farmers stated that they are not capable of effectively using the existing marketing infrastructure such as the Tshwane Fresh Produce Market (TFPM). Farmers acknowledged that high market and agents fees as well as cost of transport impede them from participating in such markets. TFPM charges 5 % fee for administration and for using its facilities while marketing agents charge 7.5 % fee for marketing farmers' produce. Indeed, farmers get 12.5 cents less per each rand of their produce's realised price. Distance to the market for both contracted and non-

contracted farmers ranged from 0 to 45 kilometres. The furthest output markets include TFPM, MCC and Gauteng hospitals followed by Pick and Pay while at the same time farmers can sell their produce at the farm gate to locals and hawkers.

Farmers also acknowledged the fact that their produce is of inferior quality and quantity when compared to that from large-scale commercial farmers and this has also contributed to little or no participation in formal markets such as TFPM and Pick and Pay.

Lack of post-harvest storage facilities with regulated temperature was also cited as a hindrance to market access. This factor was common to both contracted farmers and non-contracted farmers. Of the 50 interviewed farmers, 83.3 % (40) of them acknowledged that they did not have storage rooms with cooling facilities. Some of the notable advantages of having one were noted by farmers, which include, among others, scheduling market deliveries properly, increasing produce shelf life, keeping produce fresh and targeting profitable markets. Only 27.1 % (13) acknowledged the less importance of storage with cooling facilities. This group consisted mainly of citrus and livestock farmers. Table below shows some of the advantages of having a storage room with cooling facilities as indicated by farmers.

**Table 5.1: Advantages of having cooling facilities**

| Advantage | n | % |
|---|---|---|
| Scheduling market deliveries properly | 4 | 8.3 |
| Increasing produce shelf life | 10 | 20.8 |
| Keeping produce fresh | 10 | 20.8 |
| Increasing shelf life and keeping produce fresh | 6 | 12.5 |
| Targeting profitable markets | 2 | 2 |
| Scheduling properly market deliveries, targeting profitable markets properly and increasing produce shelf life | 3 | 13 |
| **Total** | **48** | **100 %** |

### 5.2.2 Access to financial credit and inputs markets

Poor farmers from the region locally source draught power from rich farmers with tractors and ploughing implements and prices vary depending on relations. For WUFA farmers there is a proposed arrangement in which individual farmers can have access to collectively owned farm equipment. Farmers will be responsible for paying for the labour hours of the driver and fuel.

Equipment can only be hired to farmers when there is no work which requires that machinery or implement at the cooperative farm (WCP/Section 21). However, this has not yet come into force since the inception of WUFA in 2002. This has been largely due to inefficiencies of WUFA leadership.

Seeds and fertiliser are bought as far as 40 kilometres from the Winterveld and mostly this is done individually. For WUFA farmers, citrus tree seedlings are bought collectively using collective funds (proceeds of fruit sales) and donated funds. However, individual members have to buy the seedlings from WUFA at a subsidised price.

In some cases, farmers buy their vegetable seeds from Pick and Pay Mabopane, from which they establish their own nurseries and reduce the costs of buying seedling from established nurseries. In most cases, farmers use kraal manure as a substitute for expensive inorganic fertilisers and this is locally sourced from cattle farmers. Prices vary depending on farmers' relations.

Farmers showed high levels of reluctance when asked if they would ever use their assets (land and non-land assets) as collateral. This was evidenced from both contracted and non-contracted farmers. Most of them have never used their assets and/or title deeds as collateral citing fear of losing them if they default on loan repayments and high interest rates (12 %) offered by commercial banks. Those farmers with formal contractual arrangements acknowledged that they have never tried to use their contractual documents to access funding from finance houses.

In times of financial distress, most farmers (both contracted and non-contracted) acknowledged that they borrow from their relatives and neighbours at zero percent interest rate. Micro-finance schemes exist and these include, among others, stockvels and burial societies. For burial societies, benefits are only limited to financial assistance when a policy member or those who are covered by the burial policy are deceased. Stockvels are mainly limited to close-knit family members and most of the interviewed farmers stated that they prefer dealing with family members because of high levels of payback mainly enforced by social sanction and or pressure.

### 5.2.3 Access to technical and output price information

Cell-phone communication and personal networks convey most of the produce price information. Non-contracted farmers rely on personal networks for information on produce prices in the market. Only a few contracted farmers rely on the internet for produce price information. The table below shows the distribution of communication modes among contracted and non-contracted farmers.

**Table 5.2: Modes of communication regarding produce prices**

| Type of farmers | Contracted farmers | Non-contracted farmers | Total |
|---|---|---|---|
| **Mode of communication** | n | n | N (%) |
| Cell-phone | 25 | 10 | 35 (72.9 %) |
| Personal networks | 4 | 7 | 11 (22.9 %) |
| Internet | 2 | 0 | 2 (4.2 %) |
| **Total** | 31 | 17 | 48 (100 %) |

Most of this price information is got from either community member or relative in town, or the farmers did their own produce price research In particular farmers acknowledged that the research is directed into how much other farmers are selling at rather than based on the cost structure of their production process. Also hawkers and agricultural extension agents provided produce price information to farmers. Table 5.3 below shows percentages of where produce price information is obtained. The percentage is particularly low from agricultural extension officers, mainly because DAFF agricultural extension agents are focused on improving the production capabilities of the farmer rather than his or her marketing capabilities.

**Table 5.3: Sources of information on production and marketing**

| Type of farmer | Contracted | Non-contracted | Total |
|---|---|---|---|
| **Source of information** | n | n | N (%) |
| Relative in town | 22 | 15 | 37 (71.1 %) |
| Own research | 5 | 1 | 6 (12.5 %) |
| Hawkers | 2 | 1 | 3 (6.3 %) |
| Agricultural extension agent | 2 | 0 | 2 (4.2 %) |
| **Total** | 31 | 17 | 48 (100 %) |

Produce price information sources varied among contracted and non-contracted farmers depending on their literacy and availability of media conduits such as radio, television and

ordinary magazines. Table 5.4 below shows some of the sources of price information, with most poor households relying on the radio as their sole source of price information.

**Table 5.4: Sources of price information for both contracted and non-contracted farmers**

| Type of farmer | Contracted | Non-contracted | Total |
|---|---|---|---|
| **Source of price information** | n | n | N (%) |
| TFPM, Radio, television & agricultural magazine | 8 | 7 | 15 (31.3 %) |
| Radio & television | 3 | 8 | 11 (22.9 %) |
| Radio, television & agricultural magazine | 10 | 0 | 10 (20.8 %) |
| Radio | 3 | 2 | 5 (10.4 %) |
| Don't have source | 7 | 0 | 7(14.6 %) |
| **Total** | 31 | 17 | 48 (100 %) |

Access to technical information on agriculture was mainly dominated by assistance from DAFF extension officers who were reported to be visiting farmers on a fortnightly basis. Private organisations such MCC and the Citrus Growers' Association are also instrumental in provision of technical assistance to farmers. The table below shows sources of technical assistance among contracted and non-contracted farmers.

**Table 5.5: Sources of technical information for both contracted and non-contracted farmers**

| Type of farmer | Contracted | Non-contracted | Total |
|---|---|---|---|
| **Source of technical information** | n | n | N (%) |
| DAFF extension officers | 18 | 10 | 28 (58.3 %) |
| Private companies | 1 | 0 | 1 (2.1 %) |
| Don't have source | 12 | 7 | 19(39.6 %) |
| **Total** | 31 | 17 | 48 (100 %) |

Agricultural extension officers' frequency of farm visits was noted with a mode of once a fortnight commanding a frequency of 52.1 % (25). The remaining 39.6 % (19) of the interviewed farmers acknowledged that they have never received any form of extension assistance, either from the public or private sector. Citrus farmers acknowledged a lack of citrus extension services from the public sector. Mostly farmers rely on private expertise from MCC and CGA.

### 5.2.4 Effects of contracting on accessing external resources (financial credit, technical and extension services)

There was no significant difference in the access of external resources with respect to whether one is contracted or not. However, farmers in formal contracting with GSSC benefited from free training in food safety and hygiene. The same could have been experienced by farmers in contractual arrangements with MCC, but information is not properly conveyed to individual farmers by WUFA representatives. Nonetheless, some of the smallholder farmers who are not involved in contractual arrangements had even better access to external resources. This mainly depended on how socially networked the farmer is. Following farmers' career trajectories, most of them have been involved in activities other than farming and are still using such networks to access agricultural finance and technical production skills.

## 5.3 OWNERSHIP OF NON-LAND ASSETS AND THEIR EFFECTS ON CONTRACTING

Analysis of farmers' career trajectories was done and most of them were once professionals in fields other than agriculture. Through accumulated savings from many years of working off-farm, some farmers managed to buy some of the capital equipment (tractor, ploughing equipment, irrigation equipment, etc.) needed to run a farm. Almost all interviewed farmers had access to a reliable motorised vehicle, although not all the farmers used their vehicles for farming purposes. Only 10.4 % (5) farmers have greenhouses fitted with micro-jet irrigation systems and they are all contracted to supply hospitals around Gauteng with fresh vegetables. Lack of cold storage rooms is prevalent in the region, with only WUFA member farmers having access to a collective storage with regulated temperature at the cooperative farm.

Contractors in many instances use ownership of irrigation as a farmer's selection criterion on the presumption that the farmer will be able to produce the required amount and quality, while having a cold storage room enables the farmer to consistently supply the agreed quantities while they are still fresh. This is particularly true with the contractual arrangement between Winterveld smallholder farmers and GSSC. However, most of the farmers do not have storage facilities with

regulated temperature. In many cases, farmers contracted to GSSC rely on the post-harvest handling facilities of TFPM from which they procure or outsource most of their vegetables.

For the Pick and Pay/Winterveld smallholder farmers arrangement, most farmers are not required to have a certain level of asset endowment. However, Pick and Pay drilled boreholes in the area. The whole idea behind this was to make sure that farmers have access to water which is one of the crucial elements in farming. With farmers having access to water all year round it implies that they are in a position to grow vegetables the whole year. The close proximity of Pick and Pay to the Winterveld region enables the farmers to transport vegetables to the outlet while they are still fresh. Therefore proximity substitutes for the need for a storage facility with regulated temperature. Through this, Pick and Pay would have greatly reduced its transaction costs while procuring fresh vegetables at a fairly low price.

Furthermore, most farmers in contractual arrangements are members of functioning farmers' organisations such as WUFA. Buyers prefer to deal with organised farmers in order for them to reduce transaction costs. This is particularly true for the MCC-WUFA and GSSC-WUFA contractual arrangements.

## 5.4 MARKET PRICE RISK

As noted in Chapter 2, output price risks manifest themselves in price fluctuations in different markets. Analysis of output price movements in different markets showed that farm gate prices for all produce were comparable to those offered by the hawkers to smallholder farmers in the Winterveld, as shown in Table 5.6. Pick and Pay offers the lowest prices while GSSC offers the best prices in all produce procured from Winterveld smallholder farmers. The latter can partly be explained by the use of inflation adjusted prices. There is a big difference in the prices offered by the buyers of the two orange varieties. Navels fetch twice as much revenue for farmers as compared to valencias because they are preferred to the latter in the fresh fruit markets.

Even though MCC offers the lowest prices, considerable volume of oranges are sold to them, as shown in Table 5.2. Most farmers do not have post-harvest storage facilities for their oranges so

they have to dispose of them while they are still marketable. Through this, MCC acts as a sink market for valencia oranges from Winterveld smallholder farmers.

Pick and Pay offers the lowest prices for all vegetables procured from Winterveld smallholder farmers but it buys considerable quantities from them. Comparably, it offers the best prices for navel oranges and it procures the highest volumes.

Although prices are relatively high from hawkers and at the farm gate, these outlets are not secure. Prices and amounts procured fluctuate, depending on the market forces prevailing at the time of transacting.

Locally produced high-value crops such as lettuce have a small market in the region. This could be partly explained by the availability of such high-value crops in local supermarkets and greengrocers at fairly low prices with considerably better quality.

**Table 5.6: Average produce price in different markets outlets rounded off to the nearest Rand for the season 2009/10**

| Product | Market outlet | | | | | |
|---|---|---|---|---|---|---|
| | Hawkers | Farm gate | Pick and Pay | MCC | TFPM | GSSC (Hospitals) |
| Cabbage (head) | R4.00 | R4.00 | R3.00 | - | - | R5.00 |
| Onions (a bundle of 6 onions) | R5.00 | R5.00 | R3.00 | - | - | R11.00 |
| Spinach (a bundle of 30 leaves) | R5.00 | R5.00 | R2.00 | - | - | R7.00 |
| Lettuce (head) | - | R5.00 | - | - | | R9.00 |
| Navels (7 kg bag) | R10.00 | R11.00 | R11.00 | - | R8.00 | - |
| valencia (7 kg bag) | - | - | - | R3.00 | | - |
| **Market coordination mechanism** | **spot market & relational contracts** | **spot market & relational contracts** | **informal contractual arrangement** | **formal contractual arrangement** | **spot market** | **formal contractual arrangement** |

**Table 5.7: Average quantity of produce sold in different market outlets for the season 2009/10**

| Product | Market outlet | | | | | |
|---|---|---|---|---|---|---|
| | Hawkers | Farm gate | Pick and Pay | MCC | TFPM | GSSC (Hospitals) |
| Cabbage (head) | 3000 | 4100 | 5100 | - | - | 26800 |
| Onions (a bundle of 6 onions) | 2580 | 2080 | 190 | - | - | 5260 |
| Spinach (a bundle of 30 leaves) | 6960 | 9562 | 9180 | - | - | 10000 |
| Lettuce (head) | - | 60 | - | - | | 2910 |
| Navels (7 kg bag) | 455 | 182 | 11551 | - | 2000 | - |
| Valencia (7 kg bag) | - | - | - | 20118 | | - |
| **Market coordination mechanism** | **spot market & relational contracts** | **spot market & relational contracts** | **informal contractual arrangement** | **formal contractual arrangement** | **spot market** | **formal contractual arrangement** |

## 5.5 FARM HOUSEHOLD CHARACTERISTICS

Of the 50 smallholder farmers interviewed, 48 had valid information. Mean age was 56.1 years with a standard deviation of 13.64. On average, 2 family members help with farm labour. The table below shows some of the household characteristics. With the average age of farmers at 56.1 years and most of the farmers having started farming in their late 40s, this implies that farming is taken up as a towards or post retirement occupation.

**Table 5.8: Household dynamics of Wintrveld smallholder farmers**

| Character | n | % |
|---|---|---|
| Male headed households | 33 | 68.8 |
| Female headed households | 15 | 31.3 |
| Farmer residing on the farm | 36 | 75 |
| Farmer not residing on the farm | 12 | 25 |
| Children to take up farming in future | 28 | 58.3 |
| Children to take other careers other than agriculture | 19 | 39.6 |

### 5.5.1 Overall monthly incomes

Of the population sample, 25 % (12) of the smallholder farmers in the Winterveld live on less than R3 000 per month. The majority, 31.3 % (15) live on less than R6 000, while 14.6 % (7) live on less than R9 000 and 29.1 % (14) live on more than R9 000 per month.

Smallholder farmers acknowledged that most of their income comes from non-agricultural sources. Of the interviewed farmers 31.3 % (15) acknowledged that their income comes from a pension, while 20.8 % (10) acknowledged that it comes from salaried jobs and 12.6 % (6) stated that it comes from welfare and remittances. On average, non-agricultural income sources combined contribute 80 % of the overall household monthly income, while agricultural sources combined contribute 20 %. Crop sales contribute most of the income from agricultural sources. 83.3 % (40) of the interviewed farmers acknowledged that most of their agricultural revenue comes from crop sales, while livestock sales only contributes 2.1 % (1) and mixed crop and livestock sales contributes 10.4 % (5).

### 5.5.2 Sources of income

Most smallholder farmers in the Winterveld region do not take farming as an opportunity available to them which can improve their economic welfare, as indicated in Table 5.9 a, b and c. Some non-agricultural income sources were top income contributors to the overall household monthly income. When asked to rank their income sources starting with the one that contributes the most income, farming scored badly, only coming first in the second income source and third in the third income source. Households who are entirely dependent on farming constitute the poorer households in the sample.

**Table 5.9: Sources of income for sampled farmers**
**Panel a: First source of income**

| Source of income | Frequency | Percentage |
|---|---|---|
| Pension | 13 | 27.1 |
| Wage labour | 12 | 25.0 |
| Own business | 7 | 14.6 |
| Old age/child grant | 5 | 10.4 |
| Remittance from children/relatives | 5 | 10.4 |
| Farming | 5 | 10.4 |
| Donations | 1 | 2.1 |
| **Total (n)** | **48** | **100** |

**Panel b: Second source of income**

| Source of income | Frequency | Percentage |
|---|---|---|
| Farming | 30 | 62.5 |
| Wage labour | 6 | 12.5 |
| Pension | 6 | 12.5 |
| Remittance from children/relatives | 3 | 10.4 |
| Old age/child grant | 1 | 2.1 |
| Not applicable | 2 | 4.2 |
| **Total (n)** | **48** | **100** |

**Panel c: Third source of income**

| Source of income | Frequency | Percentage |
|---|---|---|
| Not applicable | 24 | 50.0 |
| Remittance from children/relatives | 10 | 20.8 |
| Farming | 9 | 18.8 |
| Pension | 4 | 8.3 |
| Old age/child grant | 1 | 2.1 |
| **Total (n)** | **48** | **100** |

## 5.6 EFFECTS OF CONTRACTING ON SMALLHOLDER FARMERS' FARM INCOMES

Individual calculations of gross farm income for some of the contracted farmers were high with some in excess of R200 000 annually while non-contracted farmers had very low gross farm incomes in some cases lower than R2 000 annually. Average annual gross income for contracted farmers was calculated at R19 969.58 while for non-contracted farmers it was R5 459.32. The t-test showed a significant difference between the average annual gross incomes. There was a 95% confidence that average annual gross income for contracted farmers is higher than the non-contracted farmers. The table below shows the average gross farm incomes for both contracted and non-contracted farmers.

**Table 5.10: Average gross farm incomes for both contracted and non-contracted farmers**

| Descriptive Statistic | Contracted farmers | Non-contracted farmers |
|---|---|---|
| Mean | 19 969.58 | 5 459.32 |
| Median | 2 067.00 | 1 200.00 |
| Maximum | 209 958.10 | 26 500.00 |
| Minimum | 96.00 | 0.00 |
| Standard deviation | 46 846.15 | 8 556.01 |
| CV= (standard deviation/mean) | 2.3474 | 1.5673 |
| Critical value at -t $\alpha$=0.05, 46 | -2.021 | |
| t statistic | 0.31 | |

Although average annual gross income for contracted farmers was higher than that of non-contracted farmers, these results are inconclusive since farm incomes vary depending on the management skills and type of enterprise mix the farm has.

Formal contracting like the one between smallholder farmers and GSSC has generally improved the farmers' income flow. Descriptive statistics without the contractual arrangement between farmers and GSSC and between WUFA and MCC showed very little difference from non-contracted farmers. The table below shows gross farm incomes for both contracted and non-contracted farmers, excluding the incomes from GSSC-Winterveld farmers' contractual arrangement and WUFA-MCC contractual arrangement.

**Table 5.11: Average gross farm incomes for farmers contracted to type 2 contract[22] compared to non-contracted farmers.**

| Descriptive Statistic | Contracted farmers | Non-contracted farmers |
|---|---|---|
| Mean | 3 507.37 | 5 459.32 |
| Median | 1 332.00 | 1 200.00 |
| Maximum | 17 901.00 | 26 500.00 |
| Minimum | 96.00 | 0.00 |
| Standard deviation | 4 581.00 | 8 556.01 |
| CV= (standard deviation/mean) | 1.306 | 1.5672 |
| Critical value at -t $\alpha$=0.05, 46 | -2.021 | |
| t statistic | -0.43 | |

This comparison indicates that most of the smallholder farmers contracted to type 2 contract are not better off with their contractual arrangements. The t-test showed a significant difference at 95% confidence that average gross annual incomes for non-contracted is greater than the contracted farmers to type 2 contract. Although the average gross farm income for contracted farmers is lower than for the non-contracted farmers it has a lower variance. This implies that their average gross incomes are more stable than those of non-contracted farmers.

[22] See Table 4.1. Type 2 (Marketing specification contract: Leafy vegetables and Navels)

## 5.7 EXISTING LAND TENURE AND LAND USE

A freehold land tenure system exists, with farmers owning plots of either 5 morgen or 10 morgen. 31.3 % (15) 5 morgen holders and 66.7 % (32) 10 morgen holders were interviewed. Land leasing does exist with only 4.2 % (2) leasing land from land owners. Most farmers acknowledged that land was inherited from their parents and this commands 62.5 % (30) while the remaining 37.5 % (18) bought the land using their own savings. Land owners hold title deeds to the land they own and they are free to sell or lease it.

Land is not a constraint for farming in the Winterveld region. Land use patterns showed that very little land is devoted to vegetable and crop farming, as shown in Table 5.2 below. On average, smallholder farmers plant less than an acre of vegetables. However, for valencia oranges the region's average is above one hectare while for navels it is just above half a hectare. Most the land is left unproductive, with an average of 4.25 hectares. For livestock farmers, especially cattle farmers, animals are left roaming around in the region. Although there is private land ownership, cattle farmers in most cases utilise most of the fallow land. In some cases, cattle cause extensive damage to crops in other farmers' plots. In such cases, cattle owners are liable for the damage caused and they are expected to compensate the crop farmers.

**Table 5.12: Land use patterns in the Winterveld region for season 2009/2010**

| Crop/enterprise | Average land allocation (ha) |
|---|---|
| Cabbages | 0.11(0.29) |
| Onions | 0.04(0.15) |
| Spinach | 0.13(0.20) |
| Lettuce | 0.04(0.23) |
| Valencias | 1.43(3.92) |
| Navels | 0.60(1.26) |
| Fallow land | 4.25(2.92) |

Figures in parentheses are standard deviations

## 5.8 PRODUCTION CONSTRAINTS FACED BY WINTERVELD SMALLHOLDER FARMERS

Smallholder farmers in the Winterveld acknowledged shortage of water as a major problem hindering their production capabilities, with a frequency of 20.8 % (10), followed by stray

animals and veld fires with a frequency of 10.4 % (5). All farm households have access to municipal water, which they consider to be expensive. 35.4 % (17) of the interviewed farmers use borehole water for their domestic and agricultural purposes while 33.3 % (16) use municipal water and the remaining 27.1 % (13) use both municipal and borehole water. Some other problems encountered by Winterveld smallholder farmers include theft, with a frequency of 10.4 % (5), pests and disease, with a frequency of 6.3 % (3) and high costs of agricultural inputs, with a frequency of 6.3 % (3).

## 5.9 SMALLHOLDER FARMERS' ASPIRATIONS IN THE WINTERVELD REGION

Smallholder farmers are keen to participate in the formal markets but they would like to see the removal or subsidisation of market and agent fees so that they can effectively utilise already existing market infrastructure such TFPM. This will complement their incomes from contractual arrangements and at the same time help them to minimise their marketing risks.

Most individual WUFA farmers are disgruntled by the way their organisation is being run. Lack of transparency has been cited by most farmers as the root cause of dissatisfaction and this has led to poor performance of the contractual arrangement. Winterveld citrus farmers stated that they would like to participate in fruit export markets, particularly oranges, but that they need certain certifications which are costly for them.

Furthermore, WUFA farmers would like a trading situation in which they get paid for orange by-products. Currently MCC is fully entitled to all the proceeds from oil and crushed orange pills, and farmers are only paid for internal quality and sucrose in their oranges.

## 5.10 SUMMARY

Ownership of non-land assets were sources of pre-selection bias towards who should participate in contractual arrangements. However, there is no positive relationship between owning non-land assets and contracting. Some contractual arrangements are well designed to minimise farmers' price risk, but due to diversity of contractual arrangements some of them expose farmers to market price risk. There is a significant difference in farm gross incomes with respect to whether

a farmer is contracted or not, but such differences are inconclusive due to the different levels of skills, management and enterprise mix a particular farm has. In fact, although the average gross farm income for contracted farmers was high, there were incidences where non-contracted farmers had high gross farm incomes compared to contracted farmers. In some cases, contracting enables farmers to access external resources, but once again, having access to external resources also depends on farmers' innovativeness, social networks and information available to them.

Although contract farming has gained a lot of attention for its potential in including smallholder farmers in formal markets, in some cases it acts as an exclusionary factor. This is particularly true when farmers are pre-selected on the basis of whether one has got a certain level of non-land asset endowment.

Other alternative markets have to be explored for improved market access for smallholder farmers. Hawkers, for example, offer some of the best prices but there is no marketing infrastructure and legislative framework to support them. Through developing this, smallholder farmers will be capable of spreading their market price risks and at the same time complement their much needed farm incomes since in most cases hawkers buy produce with cash.

Mainly poor and pensioner households rely on farming for food security and income. Most smallholder farmers in the Winterveld do not see agriculture as a means available to them which can improve their economic welfare. This is seen through high percentages of income from non-agricultural activities, which constitute 80 % of the farm incomes.

# CHAPTER 6

# CONCLUSIONS AND RECOMMENDATIONS

## 6.1 SUMMARY

The purpose of this study was to show how contractual arrangements affect smallholder farmers and how contractual arrangements as forms of institutional arrangements can best be used to mainstream smallholder farmers into formal agricultural markets. This primary objective was analysed through various specific objectives using primary data collected from the Winterveld region. A case study approach was adopted with the use of structured and semi-structured questionnaires. Most of the data were qualitative in nature and this study did not try to fit in any mathematical or econometric model due to lack of sufficient quantitative data. Primary data collection on contractual arrangements in the Winterveld region had some shortcomings, which include identity preservation and unavailability of contractual documents for a systematic analysis of contractual arrangements. To improve data validity, the technique of triangulation was employed for the three main data sources (smallholder farmers, agribusiness firms and key informants).

Firstly, all contractual arrangements in the Winterveld region were identified and characterised, based on a general description of the contracting firm and contracted farmers, nature of contract, contract negotiation, price discovery and payment structure, responsibilities of contracting firm and contracted farmers, contract enforcement and conflict resolution and the opportunities and threats associated with the contract. Identified contractual arrangements varied from implicit to explicit contracting. As alluded to earlier on in this thesis, contractual arrangements are diverse and governance of contractual arrangements is designed to fit certain trading situations within cultural, social and business context. Contractual arrangements can be influenced by the form and inherent characteristics of the product traded. This implies that there is no one size fits all solution for an institutional arrangement that can foster increased formal market participation by smallholder farmers. In other words, contracting is not a panacea for improving formal market access for smallholder farmers. Other marketing channels such as low income consumer markets also have to be explored if market access is to be increased for smallholder farmers.

Identified contractual arrangements had different motivations, which include improving the contracting company's image or AgriBEE standing, as well as political motivations. The contractual arrangements between WUFA farmers and Pick and Pay as well as MCC were mainly motivated by a quest of the contracting company to improve their public image and at the same time improve their standing on the AgriBEE scorecard. On the other hand, the contractual arrangement between WUFA farmers and GSSC was highly politically motivated. Contractual arrangements presented smallholder farmers with opportunities as well as challenges. For instance, smallholder farmers gained from having stable markets and having access to improved technology. However, some posed challenges to smallholder farmers, including meeting specified growing and quality standards and quantity requirements. Overall, contractual arrangements in the region suffered from incompleteness and in many cases led to poor performance.

Although contractual arrangements as a form of institutional arrangement that can be used to foster increased formal market participation by smallholder farmers, it is not the only available option. Other marketing channels available should be explored for improved market participation by smallholder farmers.

Considering the cultural diversity and low income urban consumers in the potential market (Soshanguve and Mabopane high density suburbs) for Winterveld smallholder farmers, exploring such urban supply chains will certainly improve smallholder participation. Smallholder farmers are numerous and they produce heterogeneous products, which might present an opportunity for them to participate effectively in these urban supply chains, which are characterised by low incomes and cultural diversity.

Developing a public framework for contracting might prove beneficial both to the farmers and contractors. Certainly in an environment without public policy on contracting, abusive power relations can develop that lead to unfair business practices. However, it is also clear that caution has to be taken when using public funds to make certain projects seem to work.

Although the South African government brought a noble idea of contracting smallholder farmers through the GSSC, this contractual arrangement needs to be reviewed since it is not developing farmers, but rather, it is developing farmers cum middlemen. The whole purpose of

empowerment is defeated, since it is just opening more markets for the commercial agricultural sector. Statistics show that mostly FPM are supplied by large-scale commercial farmers because they are capable of supplying large volumes of high quality produce and capable of paying the market and agent fees. All smallholder farmers in the Winterveld contracted by GSSC procure most of their agricultural produce from the TFPM market before delivering it to the designated hospitals in Gauteng.

Development of long-term relationships with hawkers proves to be beneficial to smallholder farmers in terms of market information conveyance. Hawkers give farmers much needed information about consumer preferences (like the quality and form of product) and this enables farmers to produce accordingly. Strengthening such chains will result in improved market access by smallholder farmers.

Lack of production capacity by many smallholder farmers, which is driven by lack of credit lines, information asymmetry and high transaction costs, can be improved by government intervention. The prevalence of high transaction costs when dealing with smallholder farmers can be solved by introducing smart subsidies like farmer training, particularly in improving their marketing capabilities.

Finally, the conclusions of this study were based on the hypotheses highlighted in Chapter 1.

## 6.2 CONCLUSIONS

This section highlights some of the conclusions that were derived from the study. Conclusions were made as per the study's hypotheses. Also some insights from farmers' ownership of non-land assets were discussed.

### 6.2.1 Hypothesis 1: Contracting lowers smallholder farmers' market price risk and therefore improves their market access

Market price risk as defined earlier on in Chapter 2 manifests itself in price volatilities. Well designed contractual arrangements like the Public Tenders contract lower price risk for farmers

(both upside and downside risk). This was achieved through including the inflation factor for fixed prices contracts. However not all contractors are willing to absorb the price risk alone. They would rather like a situation in which produce price liability remains with the farmer. This means that farmers will only get paid after the contractor sells some of the processed raw material. This kind of arrangement leaves the farmer very vulnerable to price fluctuations in the market and at the same time leaves the farmer at the mercy of the contractor. This is particularly true for the MCC/Winterveld smallholder farmers' valencias contract.

Market price risk can also be minimised by developing a public framework for agricultural contracting or an agricultural contracting board. Copying from developed states such as the USA, a board might be formed and its main function would include the creation of reserve contractual funds for each contract, thus dissolving power imbalances which might lead to unfair business practices and guarding against contractual breaching.

Creating a contract reserve fund for each contract would certainly guard against price volatility. This could be achieved by dedicating a certain percentage of the selling price of the produce to a fund on the part of the farmers while for contractors the same should apply to the final selling price of the product. In actual fact, this will act as pseudo insurance and is a real opportunity for both the farmers and the contractors, considering high insurance premiums offered by agricultural insurance companies. When prices of the product fall in the market, the difference from what was stipulated in the contract will be covered by the fund. At the end of the contractual arrangement, the fund can be dissolved and proceeds shared proportionally to contributions made. This board in the mean time might piggyback on National Agricultural Marketing Council (NAMC) facilities in the country. However, there is one drawback with this arrangement, in that it is best suited to long-term contractual arrangements, such as plantation crops and out-grower schemes. For short-term contractual arrangements, establishing contract reserve funds might be costly. However, the board might be crucial in monitoring unfair business practice and power relations.

### 6.2.2 Hypothesis 2: Contracting improves smallholder farmers' farm incomes

On average, agricultural income only contributes 20 % of the total monthly household income in the Winterveld region. Most farmers do not see agriculture as an activity that can improve their general incomes. Most farmers are engaged in off-farm activities which contribute on average 80 % of the total monthly household incomes. With these complementing each other (farm and off-farm income), some farmers are capable of investing in farm capital equipment.

There is a significant difference between contracted and non-contracted farmers' farm income in some of the identified contractual arrangements. Contracting particularly increase farmers' incomes in the GSSC/Winterveld smallholder farmers' contractual arrangement, but for the rest of the contractual arrangements there is no significant difference between whether the farmer is contracted or not. Nonetheless it is important to note that the significant increase in farm incomes does not tally well with the amount of public finances that have been poured into the project by the government to make the contractual arrangement work. In particular, these farmers gained from a government grant which was used to erect greenhouses with micro-jet irrigation systems.

### 6.2.3 Hypothesis 3: Contracting improves smallholder farmers' capacity to access external resources (financial credit, technical and extension services)

Access to external resources in the study area did not show significant differences in whether the farmer is contracted or not, but depended heavily on how socially networked the farmer is. Most of the successful farmers were once professionals in fields other than agriculture and they are still using those networks of friends and relatives to access external resources required for their farms.

All contracted farmers stated that they did not know that they could use their contractual arrangements to access financial credit. This information asymmetry between agricultural financers and farmers could be removed by developing some communication networks with farmers. Agricultural financers can use the existing public infrastructure such as the DAFF to let farmers know about different financing programmes they have.

In most cases, contractors are willing to fund special expertise and skills training to contracted farmers which will enable them to meet the required food quality and safety standards, particularly as these skills will not be available in the public frameworks. This is true with the MCC/WUFA smallholder farmers' contractual arrangement, where expertise on citrus growing is not available on the public platform. Through this, farmers got substantial production information which has improved their production capabilities.

Collective action also improves farmer's access to external resource. This is quite evident from WUFA farmers, although most of the resources are channelled towards the operations of WCP/Section 21. Strengthening the organisation will result in more streams of benefits like acquiring collective food quality and safety certificates. This will enable farmers to participate in other markets which they were not able to because of lack of certification. Collective certification will certainly lower the costs of getting certification for individual farmers.

DAFF extension officers are doing a sterling job in capacitating the farmers in improving their production capabilities. However, they should extend the support further, to improve farmers' marketing capabilities. This might be through timely supplying the farmers with output prices in different markets. This could be done cost effectively through the use of short message services (sms) since almost every farmer interviewed has access to a cell-phone in one way or another.

### 6.2.4 Ownership of non-land assets and their influence in contracting.

In the study, ownership of non-land assets has a great influence on who can participate in contractual arrangements. However, being a member of a farmers' organisation plays a crucial role in whether a farmer can be selected to participate in contractual arrangements. In most cases, farmers buy certain non-land assets in order to meet the production requirements outlined in the contract or stipulated by the contractor. Whether those assets were financed from equity or credit arrangements, some of them will have a certain degree of fixity. This same scenario applies to the contractor. In terms of contractual failure, both partners may face substantial financial loss. With a public framework on contracting in force, such losses could be minimised.

Most smallholder farmers in the Winterveld region acknowledged that they are not willing to use their already acquired non-land assets as collateral in order to access financial credit. They cited high interest rates and fear of losing their assets when they default in payments as the major reasons why they do not want to borrow from commercial banks. Through subsidising agricultural finance for smallholder farmers they would be given the potential for them to grow from subsistence to commercially oriented agriculture.

## 6.3 AREAS OF FURTHER RESEARCH

Firstly, there is a need to develop a quantitative approach to this study which will add rigour. However, one drawback of any quantitative study will be lack of enough quantitative data, because most farmers in the region do not keep records of their farm transactions. This will make it difficult to quantify some of the variables.

Secondly, studies on the policy environment in which agricultural contracting in South Africa takes place have to be assessed. This might be the partial answer to why some of the contractors engage in contractual arrangements with smallholder farmers. Is it because they want to be AgriBEE compliant? What is the real motive behind contracting smallholder farmers instead of large-scale commercial farmers? These questions have to be answered with regard to the policy environment in which contracting takes place.

Lastly, further research should be dedicated to urban food supply chains, particularly for the low income urban consumers, and to exploring how smallholder farmers can participate in these chains. Such chains are characterised by cultural diversity and low income consumers, while on the other hand smallholder farmers have heterogeneous products which might be well suited to the cultural and income needs of these consumers. Exploration of these chains would undoubtedly offer alternative markets for smallholder farmers which will be fairly easy to enter and participate in effectively.

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http://www.tshwane.gov.za

## ANNEXURE 1: Structured Questionnaire Used

Questionnaire #_____

**A CRITICAL ANALYSIS OF AGRICULTURAL CONTRACTS WITH SMALLHOLDER FARMERS IN SOUTH AFRICA: A CASE STUDY OF WINTERVELD REGION**

**Department of Agricultural Economics, Extension and Rural Development**
**University of Pretoria**

**Dear Farmer:**

We, at the University of Pretoria, are conducting a survey sponsored by the National Agricultural Marketing Council (NAMC) on contractual agreements for agricultural market access in South Africa. The main objective of the study is to understand how contractual arrangements are formed, shaped and how can contract farming[23] be best used to ensure that smallholder farmers can benefit from formal agricultural markets. All information provided will be treated as strictly confidential on an individual basis and will be used together with the information provided in the other questionnaires by the researchers to assist the National Agricultural Marketing Council (NAMC) in providing recommendations for coming up with tailor made contract farming models to increase the participation of smallholder farmers in formal agricultural markets and for agricultural marketing policy formulation.

| Principal researcher | Project coordinator | Supervisors |
|---|---|---|
| Killian Banda (MSc student) | Dr. W. Anseeuw | Prof J.F. Kirsten and Dr. E. Biénabe |

[23] Emphasis is mainly on agricultural marketing contracts

Name of interviewer : Killian Banda

Date :

## Section 1: General information

**1.0 Please provide the following information pertaining to your farming household**

**1.1** Name of respondent _____Age_____ Sex_____

**1.2** Occupation _____ Address/location_____ Tel/cell-phone number_____

**1.3** Spouse occupation_____ Spouse education level _____

**1.4** Level of education_____ Do you stay on the farm? _____

**1.5** What is the number of children in the family? Males ____ Females _____

**1.6** What is the number of children who are staying on the farm? _____

**1.7** What is the number of children helping with farm labour? Working full time_____ Working part time _____ (specify)

**1.7.1 Please complete the following table concerning your farm labour**

| Sex of workers | Number of permanent and casual workers hired during the past year (july2009-june 2010) | | |
|---|---|---|---|
| | How many permanent workers you have | Seasonal | |
| | | Peak season (planting &harvesting) man days per year | Off-Peak season (man days per year) |
| Male | | | |
| Female | | | |

**1.7.2** How much do you pay your permanent workers (per month)? _____

**1.7.3** How much do you pay your seasonal workers (per day)? _____

**1.7.4** Total number of elder persons staying on the farm _____

**1.7.5** What is the number of elders helping with farm labour? _____

**1.8** Indicate the three main sources of income for the household in order of importance (from 1 to 3)?

☐ Farming ☐ Wage labour ☐ Pension ☐ Old age grant/child grant ☐ Remittance from children/relatives in town ☐ Others specify_____

Who are the people involved in each case? ☐ Husband ☐ wife ☐ grandmother/father ☐ son ☐ daughter

**1.9 Please complete the following regarding your professional activities**

**1.9.1** What did you else do as a professional activity? When? Why did you stop? Please, give a precise image of the activities you practiced during your life, by starting with your first activity.

| Professional activities. Please give details (type of work, place professional status | When started | Till when | What were your working conditions<br>☐ revenue per month<br>☐ Professional status<br>☐ social benefits | Could you save during this period? How much? | What were the reasons for stopping or changing? |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**1.9.2** What did your spouse or other members of your household do as a professional activity? When? Why did they stop? Please, specify precisely, by starting with her first activity.

| Family member | Professional activities (Please, give details (type of work, place, and professional status.) | When started? | Till when? | What were the working conditions at that time?<br>revenue per month?<br>Professional status?<br>Social benefits? | Could he/she save during this period? How much? | What were the reasons for stopping or changing? |
|---|---|---|---|---|---|---|
| | | | | | | |
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## Section 2: Land tenure and farming activities

### 2.0 Please complete the following land use table

| | Owned land | | | If funds were borrowed | | Communal land | Rented land | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area(ha) | Bought when | Source of funds | Monthly instalments | Interest rate | Area(ha) | Area(ha) | Total annual rentals | Rented to/ from whom |
| Cropland: Irrigated | | | | | | | | | |
| Dry land | | | | | | | | | |
| Citrus: Irrigated | | | | | | | | | |
| Dry land | | | | | | | | | |
| Grazing land (carrying capacity) | | | | | | | | | |
| Feedlots□ poultry house□ pigs pens□ (specify carrying capacity) | | | | | | | | | |
| Total | | | | | | | | | |

### 2.1 Please complete the following regarding your cropping patterns for the growing season June 2009-June2010

| From July 2009 to June 2010 | Number of ha | Crop 1 From…….to……. | Crop 2 From…….to ……. | Crop3 From…to ……. | Crop 4 From…….to ……. | Crop 5 From…….to ……. | Dry land | Irrigation | | | | | Is the plot in an irrigation scheme | | Source of water |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Drip | sprinkler | micro-jet | bucket/horse | flood | Yes | no | |
| Plot 1 | | | | | | | | | | | | | | | |
| Plot 2 | | | | | | | | | | | | | | | |
| Plot 3 | | | | | | | | | | | | | | | |
| Plot 4 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

**2.2 Please complete the following table pertaining to your productivity for the period July2009 to June 2010**

| Crop | Area planted | Amount of seasonal labour employed (man days) | | | Total production (harvested) |
|---|---|---|---|---|---|
| | | Planting | Weeding | harvesting | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## 2.3 Please provide the information pertaining to the marketing period from June 2009 to June 2010

| Outlets/ Buyer | Crops sold /livestock | Quantity sold (between july 2009 and June 2010) | Frequency of sales | Over which period do you sell your produce to the outlet | | Any marketing agreement | | How long have you been selling to the buyer | Price at last sale | Lowest price of the year (between July 2009 and June 2010) | Highest price of the year (between July 2009 and June 2010) | Distance from the market | Transport | | | Transport costs to the market |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Seasonal (specify) | All year round | yes | no | | | | | | own | collective | Buyer's | |
| Pick'n'pay | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| TFPM | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| JFPM | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Hawkers | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Farm gate | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| MCC* | | | | | | | | | | | | | | | | |
| Auction | | | | | | | | | | | | | | | | |

*Magaliesberg Citrus Company Ltd (MCC)

### 2.3.1 Please complete the following on the nature of sales agreement you have with your buyers

| Outlet | Crop | Schedule for delivery based on | | | The agreement is | | Is it written | | Is the agreement legally binding | | How often is the contract renegotiated | Are prices included in the contract | | Who initiated the arrangement | Time for payment | Method of payment | | | How do communicate with your buyers | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Contract/ prior arrangement | spot market / Delivery when production ready | Communication before delivery: from whom: from farmers OR from the market | individual | collective | yes | no | yes | no | | yes | No | | | cash | cheque | Bank electronic transfer | Cell-phone | internet | others |
| Pick'n'Pay | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| TFPM | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| JFPM | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| MCC | | | | | | | | | | | | | | | | | | | | | |
| Auctions | | | | | | | | | | | | | | | | | | | | | |

Explain in detail how the prices are negotiated in the contract?

_____

_____

### 2.3.2 Please complete the following table pertaining to conditions of exchange.

| Outlet | Crop/livestock | Conditions of sales/ contractual arrangement | | | | Price | When did this start | Implications for not meeting market conditions | Do you receive technical services from the buyer | | Do you receive crop pre-financing | | Do you receive farm visits How often per year? | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Specified volumes | Specified quality standards/colour/grade | Specified growing practices | Others specify | | | | yes | no | Cash (amount) | Inputs (amount) | yes | no |
| Pick'n'Pay | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| MCC | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| TFPM | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| JFPM | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Hawkers | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Farm gate | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Auctions | | | | | | | | | | | | | | |

**2.3.3 Please complete the following pertaining to your market outlet preferences**

Indicate on the Likert scale 1-5 where 5 is the most preferred outlet and 0 is the least preferred outlet.

| Category | outlet | | | | | |
|---|---|---|---|---|---|---|
| | Pick'n'Pay | MCC | TFPM/JFPM | Auction | Take it to the wholesale market in down town-Marabastat | Others (specify) |
| The price | | | | | | |
| Security and continued access to this market? | | | | | | |
| product rejected | | | | | | |
| quantity of produce sold | | | | | | |
| Quality of produce required | | | | | | |
| Technical assistance | | | | | | |
| Credit | | | | | | |
| Ease of selling process | | | | | | |
| Business seriousness of buyer | | | | | | |
| Respect to payment agreement | | | | | | |
| Fast payment | | | | | | |
| Other benefits that the grower outlines (detail under this table) | | | | | | |

**2.4** What do you see as major deterrence of market access? Explain why?

_____

_____

_____

**2.4.1** Are you satisfied with the prices you got for your crops last season for contracted crops (July 2009 to June2010? yes☐ no☐

**2.4.1.1**Explain why_____

**2.4.2** What types of information do you have on prices? From which source? On which markets?

_____

_____

_____

**2.4.3** How do you get market price information?

through cell-phone communication ☐ through internet communication ☐ through personal networks (specify) _____

☐ others (specify) _____

**2.4.3.1** From where?

☐ TFPM/JFPM ☐ radio ☐ television ☐ agricultural magazine/newspaper ☐ others (specify) _____

**2.4.3.2** From whom do you get that information?

☐ buyer ☐ extension officer ☐ community member ☐ relative in town ☐ others (specify) _____

**2.5** Do you experience any problems with accessing your buyers? ☐ yes ☐ no

**2.5.1** If yes, which types of problems?

_____

_____

_____

**2.6 Please complete the following pertaining to output price variations**

| Outlet | What is your perception on the price fluctuations<br>Does it fluctuate during the week?<br>Are there huge differences depending on the period?<br>Does it vary differently for different crops? | What strategy did you adopt? Does a contract make a difference? For instances offers fair price for output. Probe |
|---|---|---|
| Pick'n'Pay | | |
| Magaliesberg Citrus Company Ltd (MCC) | | |
| TFPM | | |
| JFPM | | |
| Auction | | |

**2.7 Please complete the following questions on post harvest handling**

**2.7.1** Do you experience any problems when transporting your products? Explain

_____

_____

_____

_____

**2.7.2** Do you have a storage house for your produce? yes☐ no☐

**2.7.3** ☐ On farm ☐ collective storage (explain how it works?)_____ ☐ others_____

**2.7.4** Does it have cooling facilities? yes☐ no☐

**2.7.5** If not, would you improve your marketing by having cold facilities? yes☐ no☐

**2.7.6**.1If yes, explain why

_____

_____

_____

_____

## 2.8 Please complete the following table pertaining to produce grading and packing before selling

| crop | Do you grade before selling | | Specify the grades and standards | Do you do it for a specific market outlet | | Which outlets | Do you pack your products | | Do you outsource packaging? | Do you do it for a specific market outlet | | Which outlets |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | yes | no | | Yes | no | | yes | no | | yes | no | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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## Section 3: Collective action, Extension and Market information

**3.0 Please complete the table below pertaining to your (or any member of the family) affiliation to any of the following organisations**

| Organisation | Name | Purpose of the organisation | Joined when? | Are you still a member | | Benefits from joining | Subscription fee (per year) | Meeting times in a month |
|---|---|---|---|---|---|---|---|---|
| | | | | yes | no | | | |
| Farmer's organisation | | | | | | | | |
| Water use association | | | | | | | | |
| Cooperative | | | | | | | | |
| Stokvel | | | | | | | | |
| Burial society | | | | | | | | |

**3.1 Please complete the following questions regarding extension services**

**3.1** Do you receive technical assistance yes☐ no☐

**3.1.1** From whom do you get the assistance?

_____

_____

_____

**3.2** Is there an extension officer servicing you area? yes☐ no☐

**3.2.1** If yes, for which crops/livestock?

_____

_____

**3.2.2** Do you know him or her? yes☐ no☐

**3.2.3** How many times does he visit you on farm? Often☐ Seldomly☐ Not at all☐

**3.2.4** Do you participate in farmers' days? yes☐ no☐

**3.2.5** Are they organised by the extension officer? yes☐ no☐

**3.2.5.1** If no, by which institution(s)?

_____

_____

_____

## Section 4: Production cost and inputs availability

**4.1** Do you buy fertilisers or herbicides or certified seeds on a regular basis? For which crops? Could you estimate your annual cost for fertilisers and herbicides?

_____

_____

_____

_____

**4.2** Where do you usually buy these above mentioned inputs? Specify the supplier and his/her location and the transport cost

How many times a year do you need to purchase inputs?

_____

_____

_____

_____

**4.3 Please complete the following pertaining to access to production inputs**

**4.3.1** Can you buy inputs on credit? yes☐ no☐

**4.3.2** From which retail stores or companies

_____

_____

**4.3.3** If yes what are the requirements for you to access inputs on credit?

_____

**4.3.4** How do you payback the inputs credit?

□ deduct from sales cheque before you get your money □ pay after selling crops/livestock □ others specify

_____

_____

_____

**4.4** Do you use your own transport or collective transport to transport your inputs to the farm? If collective explain how it works

_____

_____

_____

**4.5** Do you hire ploughing services? yes□ no□

**4.5.1** If yes where do you usually hire these ploughing services? Specify the supplier and his/her location

_____

_____

_____

**4.5.2** Can you estimate your annual ploughing costs?

_____

_____

**4.6** How did contract or formal marketing arrangement avoided the above mentioned problems and input price variation?

_____

_____

_____

**4.7 Please complete the following pertaining to asset possession and access to credit**

**4.7.1** Please complete the following table on asset possession

| Asset | Size/Number | Value when acquired/built | Source of funds | If funds were borrowed | |
|---|---|---|---|---|---|
| | | | | Monthly instalments | Interest rate |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**4.7.2** If you are in need of financial credit, where do you usually get it from?

□ commercial bank □ community money lenders □ savings club □ local stores □ others

**4.7.3** How much are you charged for borrowing (interest rate) suppose you borrow from?

1. Commercial bank_____ 2. Community money lenders _____ 3. Savings club_____ 4. Local stores_____

5. Others_____

**4.7.4** Can you use some of your assets as collateral? yes□ no□

**4.7.5** With which credit provider? 1□ 2□ 3□ 4□ 5□

**4.8** Are you sharing some collective assets for individual farming business? yes□ no□

**4.8.1**If yes which one are you sharing?

_____

**4.8.2** How were these collective assets purchase or funded? Please explain

_____

**4.8.3** How many farmers are benefitting from it? _____

**4.8.4** Can you use the collective assets as collateral? yes☐ no☐

**4.8.5** If yes please explain how it works

_____

_____

_____

**4. 8.6** Were these assets bought on credit or cash? If credit at what interest rate _____

**4.8.7** Do you contribute to paying for these assets? How? How much? Please explain

_____

_____

_____

## Section 5: Risk and uncertainties

**5.0** Can you give us a brief description of the production problems you have faced in the past 5years

_____

_____

_____

**5.1** How did you cope with these problems? Did you have to change your practices? Please explain

_____

_____

_____

**5.2** What do you think could have improved your capacity to overcome the above mentioned problems?

_____

_____

_____

## Section 6: Agricultural contracts

Questions to be asked in cases where the farmer has a got a formal contractual agreement with a buyer:

**6.0** Can you use your contractual arrangement as a form of collateral to access credit finance? Yes☐ No☐

**6.1** Can you outline some of the advantages of contract farming

_____

_____

_____

**6.2** Can you outline some of the disadvantages of contract farming

_____

_____

_____

**6.3** What do you see as the major threats of contract farming?

_____

_____

_____

**6.4** What opportunities do you see in contract farming?

_____

_____

_____

## Section 7: Family income

**7.1** What is your household overall monthly income?

☐ R(1000-3000) ☐ R(3001-6000) ☐ R(6001-9000) ☐ R(9001-12000) ☐ R(12001-15000) ☐ R(15001-25000)

☐ R(>25001)

**7.2** What are the sources of income available to your household? State the amount you receive from every source per month or year.

Non-agricultural sources

| Source | | Amount | Month | Year | From who or what? |
|---|---|---|---|---|---|
| Salaried job | | | | | |
| Remittances | Cash | | | | |
| | Kind | | | | |
| Welfare | pension | | | | |
| | Child grant | | | | |
| | Old age grant | | | | |
| | Allowances for health | | | | |
| Migrant worker | | | | | |
| Others | | | | | |

Agricultural sources

| Sources | amount | month | year | To whom |
|---|---|---|---|---|
| Crop sales | | | | |
| Crops (in kind) | | | | |
| Animal sales | | | | |
| Animals (in kind) | | | | |
| Selling animal hides | | | | |
| Exchange of agricultural products | | | | |
| Others (please specify) | | | | |

**7.3** Do you/your household save money? How much per month? Where?

| | Amount |
|---|---|
| Formal institutions (banks, trust) | |
| Saving policy, insurance | |
| Others (specify) | |

**7.4** If you/your household have credit outstanding, fill out the next table.

| Institution or person | Amount | Interest rate | Since when |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**8 Do you see your daughter or son taking up farming when you retire from farming?** **Yes☐ No☐**

**Thank you**

# Annexure 2: Contractual arrangements identified in the Winterveld Region

| Characteristics | Mechanisms | Contract Type 1 (Marketing specification Valencias contract) | Contract Type 2 (Marketing specification leafy vegetables contract) | Contract type 3 (Marketing Specification Navels contract) | Contract type 4 (Marketing Specification public tenders contract) |
|---|---|---|---|---|---|
| **Service provided** | Capital inputs (Citrus tree seedlings and boreholes). | x(citrus tree seedlings) | x(boreholes) | x(boreholes) | None |
| | Technical assistance (technical production information | x | x | none | None |
| **Contract duration** | | indefinite | indefinite | indefinite | 3years |
| **When the payment is done?** | | 1st (50 % of final payment) November, 2nd (25 % of final payment) March 3rd (25 % of final payment) June | within 1 month | within 1 month | within 1 month |
| **Time of transaction** | | Winter (August) | Winter and Spring season | Winter (August) | Throughout the year |
| **Place of transaction** | | Cooperative farm (WCP) | Buyer's premises | Cooperative farm (WCP) | Buyer's premises |
| **Frequency of deliveries** | | once | vary depending on availability of vegetables | once | once every week |
| **Functions of the contract** | **Mechanisms** | | | | |
| **Type contract** | Formal contract | x | | | x |
| | Informal contract | | x | x | |
| **Collectiveness of the contract** | Collective | x | | x | |
| | Individual | | x | | |
| | initiated collectively but individual transactions | | x | x | x |
| **Legality of contract** | legal with option for legal recourse | | | | x |
| | Legal with no option for legal recourse | x | | | |
| | not legal | | x | x | |
| **Time contract is negotiated** | | each season before harvesting (technical staff assess farmer capacity using production estimates from January-June before a new contract is done) | when harvesting is ready (farmers take samples of vegetables to the buyer where negotiations are done) | each season when harvest is ready (buyer asses quality of product and current market price before transactions are done) | every 6months (produce prices are reviewed(inflation adjusted prices)) |
| **Price discovery** | Formulas applied | X | | | |
| | Current market price of product | X | x | x | |
| | Fixed price | | | | x |
| **Contract initiation** | WUFA | X | x | x | x |
| | Farmer | | x | | |
| | National Department of Agriculture | | | | x |
| | Collective | X | | | |
| **Transport to the market** | Buyer's | X | | x | |
| | Farmer's | | x | x | x |

| Characteristics | | (Marketing specification Valencias contract) | (Marketing specification leafy vegetables contract) | (Marketing Specification Navels contract) | Specification public tenders contract) |
|---|---|---|---|---|---|
| **Type of payment** | Cash | | x | x | |
| | Cheque | | x | x | |
| | Bank electronic transfer | X | | | x |
| **Mode of communication** | cellphone | X | x | x | x |
| | internet | X | | | x |
| **Conditions of sales** | Specified volumes | X | | | x |
| | Specified quality standards/color/grade | X | x | x | x |
| | specified growing standards | X | | | x |
| **Implications for not meeting conditions of sale** | product rejection | | x | x | x |
| | contract cancelled | x* | | | x |
| | low price per grade | X | | | |
| | Sued | | | | x |
| **Effects of the contract** | **Mechanisms** | | | | |
| **Pre-selection bias** | Selection of farmers with greenhouses | | | | x |
| | Selection of farmers with irrigation equipment | | | | x |
| | Selection of farmers with reliable vehicle | | | | x |
| | Selection of farmers with postharvest handing capacities (cold rooms and cold trucks) | | | | x |
| | membership in farmer organisation | X | x | x | x |
| **Efficiency** | Improved incomes for farmers | | | | x |
| | Improved production methods | X | | | |
| **Sustainability (threats of the contract)** | late payments | X | | | |
| | not enforceable | X | x | x | enforceable |
| **Sustainability (opportunities of the contract)** | Profile building | | | | x |
| | Better incomes for farmers | | x** | x** | x |
| | Capacity of investment to improve the farming system | X | x | x | |

# Annexure 3: A typical example of the Government tenders contractual document

Gauteng Provincial logo

**GAUTENG SHARED SERVICES CENTRE**
Isikhungo saseGauteng Sezinsizakalo eziHlanganyele
Setsi sa Ditshebeletso tse Kopanetsweng tsa Gauteng
Gauteng gedeelde-dienssentrum

Enq. XXXXXXX XXXXX
Tel. XXXXXXXX
Fax. XXXXXXXX
Date: XX XXXX XXXX

**Name of farmer**
Address
Tel XXXX
Fax XXXX

**Attention: Name of farmer**

**RE: LETTER OF AWARD: REF: XXXXXXX: SUPPLY AND DELIVERY OF FRESH VEGETABLES TO GAUTENG DEPARTMENTS OF HEALTH AND SOCIAL DEVELOPMENT**

1. We are pleased to inform you that your bid in respect of the abovementioned tender has been successful and accepted at an estimated total cost of R XXX, XXX for a period of 36 months subject to renewal annually.
2. The Entities to be supplied are XXXXX, XXXXX, and XXXXX Hospitals
3. This award is subject to a conclusion of a mutually acceptable agreement, between your company and Gauteng Shared Service Centre. This office will be in contact with you shortly to finalise the contractual matters. Until such time that the agreement is finalised, this relationship will be governed by both the Gauteng Provincial Government general Conditions of contract, the contents of RFP no. (Reference number) and subsequent written communications.
4. Should you have any further queries, please do not hesitate to contact (Enq. XXXXX) at (telephone number)

Signature
**GENERAL MANAGER: PROCUREMENT**
**GAUTENG SHARED SERVICE CENTRE**
**DATE XXXXXX**