

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 financiers 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 than 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 Goals¹ 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-compliance.

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 other 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.

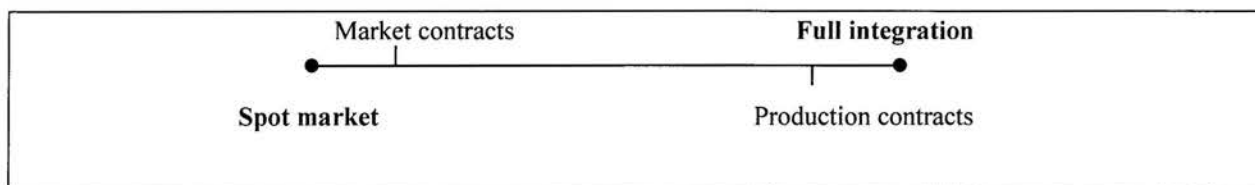
Contractual arrangements can also be seen as the relationship between growers and private or state enterprises that substitute for the open market exchange by linking nominally independent family farmers of wide variant with a central processing or purchasing unit that regulates in advance price, production 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-compliance 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-compliance 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 wield more power than the farmers and this puts them in a position 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	<p>Findings</p> <ol style="list-style-type: none"> Majority of commodities appeared to be procured through some form of production or marketing specification contracts <ul style="list-style-type: none"> 100% of South Africa tobacco, sugarcane, cotton, timber, meat poultry and eggs are secure by some form of contracting 78.5% of all fruits and vegetables processed are procured by some form of contracting-usually a pre-season marketing and price arrangement. In many instances, however, contracting relies on informal agreements or “hand shake deals” and trust to secure long term supply In many transacting processes black farmers producing smaller volumes are excluded from potential market opportunity. 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 <p>Recommendations</p> <ol style="list-style-type: none"> There is need for agribusiness to invest in smallholder agriculture to lessen transaction cost There is need to protect power imbalances in trading 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. <ul style="list-style-type: none"> Aided by the use of structured and semi structured questionnaire 	<p>Findings</p> <ol style="list-style-type: none"> Factors affecting up scaling and or replication of this type of procurement relates to operating in a remote emerging market Franchises stores with flexible procurement options rather than relying solely on the central distribution warehouse. Proximity to the chain store influenced the Franchise store to contract the farmers Franchise stores extended credit lines to farmers Agreeably both transacting partners benefited from the contractual arrangements and these includes among others; <ul style="list-style-type: none"> Improved farming incomes (farmer)

- Low cost of procurement of fresh vegetables-short supply chains (franchises)
- Agribusiness community strategy-social responsibility (franchises)

Recommendations

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.

<p>Kirsten, J. and Sartorius, K.</p>	<p>A framework to facilitate institutional arrangement for smallholder supply in developing countries: An agribusiness perspective</p>	<p>2007</p>	<p>Exploratory case study for Southern Africa in the sugarcane and timber agricultural sector</p>	<p>The study was developed on the basis of two questions</p> <ol style="list-style-type: none"> 1. How can smallholder farmers overcome the barriers of market participation due to changes that came with trade, industrialisation and supermarket revolution? And 2. How can smallholder farmers reduce their transaction costs <p>Findings</p> <ol style="list-style-type: none"> 1. A transaction cost framework incorporating the presence of trust, demonstrated how the transact characteristics of supply influence the choice of governance structure <ul style="list-style-type: none"> • 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 <p>Recommendations</p> <ol style="list-style-type: none"> 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.
<p>Sautier, D., Vermuelen, H., Fok, M. and Biénabe, E.</p>	<p>Case studies of Agro-processing and contract agriculture in Africa</p>	<p>2006</p>	<p>A case study approach of which South Africa was part of the study</p>	<p>Findings</p> <ol style="list-style-type: none"> 1. Most agribusiness were by passing the National Fresh Produce Market (NFPM) through the use of preferred supplier schemes 2. The Agro-BEE policy is acting as an incentive for agro-processors to procure their requirements from smallholder farmers <p>Recommendations</p> <ol style="list-style-type: none"> 1. Research on ways in which small-scale farmers can be coordinated in a wide range of both formal and informal procurement relationship 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 Mkhathshwa, 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 contracting² and lack of contracted farmers' listing, snowball sampling³ 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 companies⁴ 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.

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 sampling⁶ was possible. Also, the technique of triangulation was applied in order to validate the three⁷ 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.