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The successful integration of smallholders in vertical coordination arrangements

Experiences of the KASCOL model in Zambia

A thesis presented in partial fulfilment of the requirements for the degree of

Master of AgriCommerce

at Massey University, Manawatu, New Zealand.

Sepiso Mungandi

2011

Abstract

Agribusiness firms have been increasingly engaging in closer vertical coordination arrangements in order to better meet their customer's changing needs. On the other hand, as the fight against poverty in developing countries continues, policy makers seek ways in which they can reduce this poverty. One such way has been to integrate smallholders in vertical coordination arrangements. However, reports show that this has been with little success. Therefore, the purpose of this study was to examine a successful experience of smallholder inclusion in a vertical coordination chain, in order to determine the reasons underpinning such a success. The case under investigation was the Kaleya Smallholders Company Limited, a model operating within the Zambian sugar industry.

The research design was qualitative in nature, with 20 in-depth interviews being conducted with representatives of the four main stakeholder groups to the model: Kaleya Smallholders Trust; Kaleya Smallholders Company Ltd; Zambia Sugar Company; and the smallholders.

The results show that the model, which had been in existence for 30 years, was able to increase the smallholders' participation over time. The variables explaining the success of this model are classified as follows: (1) the context that created an enabling environment for profit and healthy interdependency; (2) the governance structure that allowed balance of power relationships; (3) the managerial skills, which were instrumental in operational efficiencies; and (4) the growth of social capital. The conclusion is that, although context, governance structures and managerial competence were necessary factors for the sustainability of the model, the variables related to social capital were determinant for the long-term successful integration of the smallholders.

The results obtained in this study cannot be generalised to other contexts, due to the nature of the research design, but they have led to some useful implications, among them being: the need for managers to not only correctly establish their governance and management, but also to correctly establish their social capital; and the need for the government to become

involved in the initial stages of developmental projects involving smallholders, in order to help reduce the power imbalance between smallholders and firms.

Key words: Vertical coordination, smallholders, KASCOL, social capital, participation, and successful integration.

Dedication

I dedicate this thesis to my dear husband, Yamvwa Kahokola, for his support and patience during my study period. You are simply the best, and may God's glory continuously shine on you. I love you.

Acknowledgements

First and foremost, I give all the glory and praise to God Almighty for seeing me through my study at Massey University, and giving me the strength to finish my programme. I am nothing without you, Lord.

Next, I would like to thank my chief supervisor, Mr Daniel Conforte, for taking keen interest in my work and for believing and encouraging me that I had ‘a good piece of work’ which could result in some valuable lessons. I would also like to appreciate my other supervisor, Dr Tanira Kingi, for his guidance.

I would like to thank KASCOL management for their cooperation during my fieldwork. Special thanks go to Mr Redson Sialwiindi and Mr Moola Namakando for their help whenever I needed it. I would also like to appreciate all my participants for sparing time in their busy schedule to chat with me.

It is with sincere sadness and regret that I acknowledge the support of my translator, colleague and very good friend, Mr Oswald Mbulo, who was murdered five months after my fieldwork (in circumstances not related to this study). Without him my fieldwork would have been a struggle. Thank you very much for always having been there for me. My thesis will always be a reminder of you.

My deepest thanks go to the New Zealand government for providing me with the scholarship to study in New Zealand. My appreciation also goes to the international office at Massey University, in particular, Mrs Olive Pimentel, for her kind heart and advice that helped to keep me going.

Lastly, but certainly not the least, I want to give a big ‘thank you’ to all my friends and colleagues in Zambia who assisted me in one way or another during my fieldwork; and to all my friends and colleagues in New Zealand whom I consulted. May God richly bless you all.

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List of acronyms

ACP-EBA	African, Caribbean and Pacific Group of States-Everything But Arms
ACI	Agrifood Consultancy International
AGM	Annual General Meeting
CAM	Corporate Affairs Manager
CDC	Commonwealth Development corporation
CEO	Chief Executive Officer
CFL	Consolidated Farming Limited
CSO	Central Statistical Office
DC	Development Committee
EO	Extension Officer
EU	European Union
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
IMF	International Monetary Fund
ISO	International Sugar Organisation
KASCOL	Kaleya Smallholders Company Limited
KASFA	Kaleya Smallholders Farmers Association
KAST	Kaleya Smallholders Trust
KSE	Kalungwishi Sugar Estate
LCMS	Living Conditions Monitoring Survey
MACO	Ministry of Agricultural and Cooperatives
MCGA	Mazabuka Cane Growers Association
MCGT	Mazabuka Cane Growers Trust
SADC	Southern African Development Community
SAP	Structural Adjustment Programmes
TCE	Transaction Cost Economics
ZIAH	Zambia Institute of Animal Health
ZMK	Zambian Kwacha

Chapter One: Introduction

1.1. Background

Evidence shows that agribusiness firms have been moving towards closer vertical coordination strategies such as contracts, franchising, strategic alliances, and full vertical integration, and away from the use of spot markets (Kherallah & Kirsten, 2002; Matopoulos, Vlachopoulou, Manthou, & Manos, 2007; Young & Hobbs, 2002). This is in the hope of better positioning themselves to meet the needs of their customers who are increasingly becoming more food safety conscious, in addition to being environmentally conscious (Kherallah & Kirsten, 2002; Louw, Kirsten, & Madevu, 2005; Matopoulos, et al., 2007; Swinnen & Maertens, 2007; Young & Hobbs, 2002). Vertical coordination, which refers to how the various stages of production, processing, and marketing are synchronised (Frank & Henderson, 1992; Martinez, 2002) allows for better information flow between producers, processors and retailers thus enabling the producer to tailor her/his production to changing consumer needs. As such, closer vertical linkages are said to reduce transaction costs, thereby increasing the welfare of the parties involved in the linkage and also allowing them to remain competitive (Hennessy, 1996; Kliebenstein & Lawrence, 1995; Young & Hobbs, 2002).

On the other hand, poverty in developing countries continues to be a global concern and a hindrance to their development. Although the number of people living in extreme poverty has gone down over the past few years, as seen from Figure 1.1, poverty still remains a concern (United Nations, 2010). For instance, in Zambia, which ranks first in the world in relation to the proportion of its population living below the poverty line (IndexMundi, 2009), 58% of households live in 'extreme poverty' (Kapunda, 2005, p. 486). In addition, more than 70% of the extremely poor were found to be living in rural areas. The definition of extreme poverty is an individual living on less than USD1.25 a day, which recently changed from less than USD1 a day (United Nations, 2010).

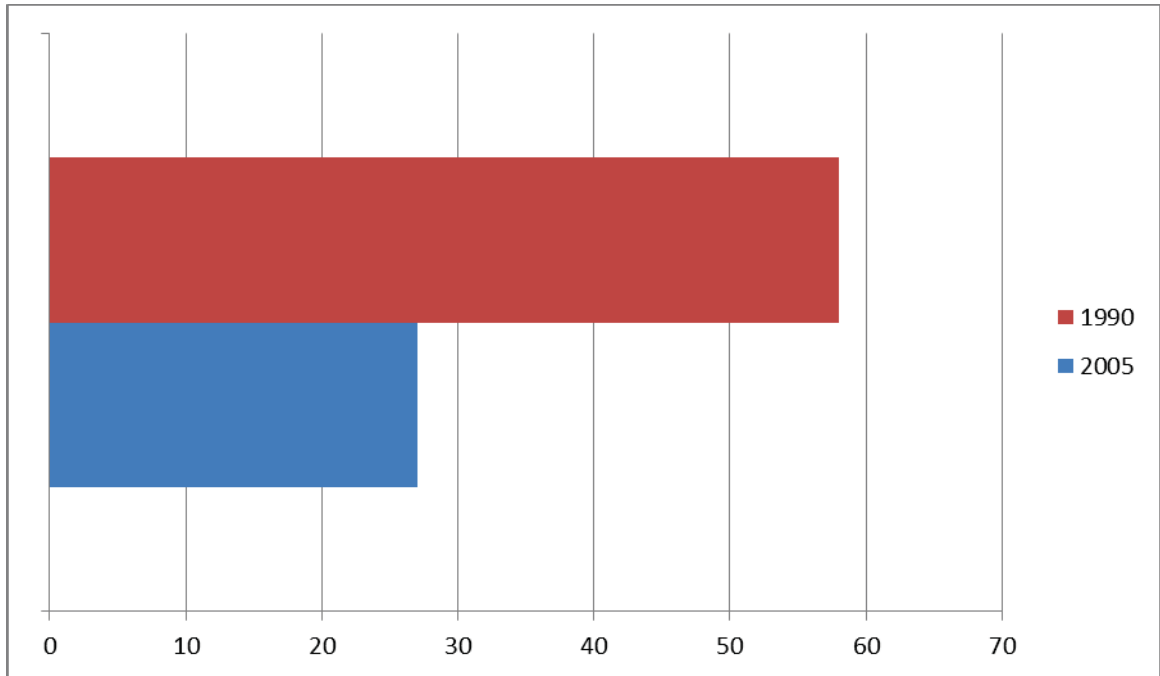


Figure 1.1: Proportion of people in developing countries living on less than USD1.25 a day (percentage)

Source: United Nations (2010)

Table 1.1 reveals that the incidence of poverty in Zambia was highest in the Western Province, a region which is mainly rural, whilst the incidence of poverty was less in the capital city, Lusaka. This supports reports by the United Nations (2011), that the majority of the poor are in rural areas, with the major activity for these people being small-scale agriculture.

Poverty levels among the rural poor, in particular, smallholder farmers was particularly exacerbated with the introduction of market liberalisation policies, which were introduced into developing countries in the 1980s and 1990s, through the ‘Structural Adjustment Programmes’ (SAP) of the World Bank and the International Monetary Fund (IMF) (Jauch, 1999; Pletcher, 2000; Seshamani, 1998). This situation arose because, prior to the reforms, the state played a major role in supplying the majority of this category of farmers with inputs, such as seeds, fertilisers, and credit. In addition, the government guaranteed a market for their produce (mostly maize), which was later sold to urban millers. As such,

these smallholders were strongly dependent on the government. With the implementation of agricultural reforms, in the 1990s, the government relinquished all the roles it previously played, in order to allow the private sector to take over (Catelo & Costales, 2008; Pletcher, 2000). As a result, private agricultural input suppliers of fertilisers, seeds, chemicals, agricultural farm implements and consultancy services, joined the agricultural sector. On the marketing side, a number of traders (both small and large) began to participate in purchasing produce from farmers. This turn of events left smallholders to operate in a competitive environment, where they had to both source for their inputs and also source a market for their produce (Seshamani, 1998). Due to a lack of collateral, which was needed for them to access loans from lending institutions, and with no guaranteed market for their produce, many smallholders in developing countries have participated very little in commercial agriculture and the production of high value products (Catelo & Costales, 2008; Jauch, 1999; Pletcher, 2000; Seshamani, 1998), and thus poverty levels among them have continued to rise.

Table 1.1: Incidence of poverty by province, 1991 - 2006

Province	Incidence of poverty					
	1991	1993	1996	1998	2004	2006
Central	70	81	74	77	76	72
Copperbelt	61	49	56	65	56	42
Eastern	85	91	82	79	70	79
Luapula	84	88	78	82	79	73
Lusaka	31	39	38	53	48	29
Northern	84	86	84	81	74	78
North Western	75	88	80	77	76	72
Southern	79	87	76	75	69	73
Western	84	91	84	89	83	84

Source: CSO (2010)

Policy makers, not only in developing countries, but also worldwide, seek ways to improve the livelihoods of the poor, as observed from the formulation of the *Millennium Development Goals*, which are a set of goals and targets adopted in 2000, and are to be achieved by 2015 (United Nations, 2010) . One of the strategies for reducing rural poverty

has been to integrate the smallholders into *vertical coordination arrangements*, mostly through contract farming. Through such types of arrangements, smallholders are enabled to produce high value crops that can earn them higher incomes (Kirsten & Sartorius, 2002). This arrangement is facilitated through the fact that the smallholders who participate in vertical coordination arrangements tend to have better access to new technologies and better access to inputs. In addition, they have a ready market and they are provided with pre-determined prices (Baumann, 2000; Glover & Kusterer, 1990; Weatherspoon, Cacho, & Christy, 2001).

However, many such attempts to integrate smallholders in vertical coordination arrangements have not made a great deal of difference to the lives of smallholders, as reports have indicated. Watts et al. (1988, as cited in Porter & Phillips-Howard, 1997) actually pointed out that there is no evidence that smallholders, who become involved in these deals, actually increase their equity overtime. Other major criticisms of these agreements (where smallholders are involved) include: (1) the unequal power relationship between the firms and the smallholders involved, which leaves the smallholders vulnerable and at the risk of being taken advantage of; and (2) the shifting of farm management decision-making from the farmer to the firm, thus placing the farmer in the position of being merely a labourer than an entrepreneur (Baumann, 2000; Glover & Kusterer, 1990; Kherallah & Kirsten, 2002; Patrick, 2004; Porter & Phillips-Howard 1997; Sartorius & Kirsten, 2007; Singh, 2002a; Sriboonchitta & Wiboonpongse, 2005; Warning & Key, 2002). Furthermore, in many cases, firms prefer to work with farmers who have relatively larger farms, in order to reduce their transaction costs, and as a result, they are ignoring poor farmers (Glover & Kusterer, 1990; Reardon, Barrett, Berdegue, & Swinnen, 2009; Singh, 2002a).

1.2. Problem statement

With poverty levels being a developmental concern and with a vehicle which has the potential for poverty reduction, there is a need to investigate experiences of vertical coordination arrangements which have successfully integrated smallholders.

Within the Zambian sugar industry, an example of successful smallholder participation in a vertical coordination model has been in existence since 1980 (Bangwe, 2009; Church, Groom, Thomson, & Dlamini, 2008; Nakaponda, 2006). This model, which is known as KASCOL, involves a sugar milling company (Zambia Sugar Company), a farmers' group (Kaleya Smallholders Trust), 160 smallholders, and a company named Kaleya Smallholders Co. Ltd (KASCOL). Although the parties to this model have been together for almost 30 years and the participation and governance role of the smallholders has increased significantly, no in-depth investigation has been conducted, in order to understand the reasons behind such a success.

Reference to the KASCOL model in this study will be taken to mean the participants and the organisation and the ownership and governance of this arrangement. Participants in this model are comprised of the four main stakeholders mentioned previously: and they are all based in the Mazabuka District of Zambia.

Hopefully, the results from this study will lead to useful policy implications, in relation to what needs to be considered, in order to ensure the successful integration of smallholders in vertical coordination and the sustainability of such types of arrangements.

Therefore, the research questions and objectives for the study are as follows:

1.3. Research questions

The key questions of interest are:

- How has smallholder participation in the KASCOL model changed overtime?
- What are the reasons underpinning the model's successful smallholder participation and sustainability?

1.4. Objectives

The main objectives of this study are:

- To understand the KASCOL model and the changes which have taken place overtime;
- To identify whether the smallholders' participation has changed over time and in what way; and
- To identify what has contributed to the sustainability and success of this smallholder participation.

1.5. Thesis outline

This thesis is divided into seven chapters. As already presented, Chapter One introduces the subject under study, in addition to the research questions and objectives which are to be answered. Chapter Two reviews the literature related to the subject at hand. Chapter Three introduces the study country - Zambia. It gives information on the agricultural scenario and the expansions taking place in the Zambian sugar industry which are creating room for the participation of smallholders. Chapter Four presents the methods utilised in the study, specifically looking at the research design adopted and the methods for data collection and analysis. Chapter Five presents the findings of the study. This chapter begins by offering a description of the KASCOL model, in terms of the initial constructs. It then identifies the changes that have taken place in the model overtime. The chapter concludes with propositions for reasons behind the success of this model. Chapter Six discusses the findings presented in the previous chapter, which include the elements of contradiction in the KASCOL model and what the literature recommends for successful integration of smallholders into vertical coordination arrangements. Finally, it discusses the important success factors identified in the previous chapter, in relation to what has been found in the literature. Chapter Seven, presents the study's conclusions, and offers policy and managerial implications. Finally, it suggests areas for future research.

Chapter Two: Literature review

2.1. Introduction

This chapter reviews the literature related to the subject matter. It begins by examining vertical coordination and the concept of transaction cost economics, as it relates to the factors that firms consider, when choosing which vertical coordination form to adopt. The chapter also reviews contract farming in detail, which is one form of vertical coordination. It presents the benefits and drawbacks of contract farming and the role it plays, by including smallholders in commercial agriculture, in developing countries. The chapter closes with a review of factors that have been stated to affect the success of vertical coordination arrangements.

2.2. Vertical coordination

Vertical coordination refers to the way in which several different stages of production, marketing and processing are synchronised: and who has the responsibility of conducting which activity (Frank & Henderson, 1992; Martinez, 2002). Buvik and John (2000) defined vertical coordination as “the purposive organization of activities and information between independent firms” (p. 53). What form of vertical coordination strategy to engage in is an important aspect of every firm’s decision-making process, because it can affect efficiency and thus also affect the returns from business undertakings. Firms can decide from a wide range of forms of vertical coordination, which can also be referred to as governance structures. In order to decide which governance structure is more appropriate for a particular situation, transaction cost economics is a tool that offers a useful indication (Frank & Henderson, 1992; Hobbs & Young, 2000; Schulze, Spiller, & Theuvsen, 2007).

2.3. Transaction cost economics (TCE)

With every transaction, there is a cost attached to it. In business, transaction costs occur during the planning and implementation phases of an operation and also during the process of checking that operations are progressing according to the plan (Williamson, 1981). A

firm will, therefore, attempt to identify which governance form best reduces its transaction costs and (according to the ‘New Institutional Economics’) this is bound to change overtime, as firms continue to seek to find ways that best reduce these costs (Kherallah & Kirsten, 2002).

In TCE, the characteristics of transactions, which have been considered to be of importance when making a decision on the form of governance are *asset specificity; uncertainty; the frequency of the transaction; and measurement costs* (Frank & Henderson, 1992; Martinez, 2002; Sartorius & Kirsten, 2005; Williamson, 1981).

2.3.1. Asset specificity

Williamson (1981) referred to *asset specificity* as “the most important dimension for describing transactions and the most neglected attribute in prior studies of organizations” (p. 555). Asset specificity relates to how investments are closely tied to a particular transaction and thus it is of little or no use when shifted to a different transaction, or the cost of doing so can be very high (Frank & Henderson, 1992; Martinez, 2002; Sartorius & Kirsten, 2005; Williamson, 1981). There are three types of asset specificity: *site, physical, and human asset specificity* (Williamson, 1981). Both Martinez (2002) and Williamson (1981) indicated that the significance of examining the asset specificity of a transaction is because asset specific investments tend to lock the investor into their chosen arrangement, due to the fact that it is costly to dispose of the assets, since there will only be few players operating in that particular industry. Thus, Williamson argued that, in the case where there are asset specific investments involved, transacting partners will tend to identify ways that best keep them working together, over a long period.

2.3.2. Uncertainty

Uncertainty refers to unforeseen circumstances that could have a bearing on the business of a firm (Frank & Henderson, 1992; Martinez, 2002; Sartorius & Kirsten, 2005). Martinez (2002) groups the possible sources of uncertainty into three parts: those that can emerge from technology changes; changes in what consumers find desirable and other natural changes; inability for the correct information to reach the intended persons, at the correct

time; and whether the other party is giving full information — or is holding back information.

2.3.3. Measurement costs

Measurement costs arise from the problem of assessing the real value of products and the information the other party is offering (Martinez, 2002). In order to determine whether a supplier has supplied a desired quality, a buyer may incur the costs of sorting out the high grade produce from the low grade produce.

2.3.4. Frequency

Frequency refers to how often the firm will require to buy a particular product (Sartorius & Kirsten, 2005). It points to whether the transacting partners will need to make the exchange frequently, or after a long period of time.

The above characteristics give an indication as to which governance structure, or vertical coordination strategy, is more appropriate. Furthermore, Sartorius and Kirsten (2005) provided a transaction cost framework that could help a firm make a decision on which vertical coordination strategy to employ, based on the characteristics of frequency, asset specificity and uncertainty, which are matched against five organisational options (Table 2.1). Based on this framework, a firm can score its business activities and thereby determine which strategy along the ‘vertical coordination continuum’, which spans from spot markets to full vertical integration, is most suitable. A strategy that falls to the extreme left of the continuum is one where change can easily be effected: the product has several substitutes; it is not frequently sourced; and very little information is required to be shared by the parties involved. To the right end of the continuum is full vertical integration, which is suitable for products that do not have substitutes and which are frequently required: that is, they require investment in specific equipment and facilities; there is a need to share information, in order to ensure the prompt supply of products and inputs; and the relationship between the parties is expected to be long-term (Besanko, Dranove, Shanley, & Schaefer, 2008; Runsten, 1994; Sartorius & Kirsten, 2005). One example of such a product

is sugarcane (Sartorius & Kirsten, 2005). In the middle of spot markets and full vertical integration, are contracts.

2.4. Forms of vertical coordination

2.4.1. Spot markets

Spot markets are simple market transactions, where no prior arrangement between a buyer and a seller is necessary (Frank & Henderson, 1992; Martinez, 2002). Transactions usually conducted in this manner include those which do not require investment in high specific assets and/or involve many buyers and sellers.

2.4.2. Vertical integration

Vertical integration is a vertical coordination arrangement in which a firm carries out most (or all) of the different stages of production, processing, and marketing (Frank & Henderson, 1992; Harrigan, 1983; Martinez, 2002). Harrigan (1983) pointed out that vertical integration varies in breadth, stages, degree and form. When firms integrate vertically, they tend to improve on their coordination along the hierarchy (Harrigan, 1983; Milgrom & Roberts, 1992). The more asset-specific a production activity is (and the higher the uncertainty and measurement costs) the greater vertical integration becomes a governance choice (Martinez, 2002). Vertical integration protects the firm from opportunist behaviour and it gives the firm an opportunity to become a leader in its field and create unique products that cannot be matched by its competitors (Harrigan, 1983; Martinez, 2002; Milgrom & Roberts, 1992)

Table 2.1: Transaction cost conceptual framework

Contract characteristics	Grade 1		Grade 2		Grade 3		Grade 4		Grade 5	
	Classical contracting		Neo classical contracting		Neo classical contracting		Bilateral relational		Unified relational	
	↓	Spot market	↓	Specification	↓	Strategic alliance	↓	Formal cooperation	↓	Full vertical integration
1. Frequency	Low	Low	Low-medium	High	Medium	High	Very high XX			
2. Asset specificity	Low	Low	Low-medium	High	Medium	High	Very high XX			
3. Uncertainty										
▪ Ability to walk away	Yes	Yes	Yes/lower	Low	Less XX	Low	No			
▪ Substitutes	Yes	Yes	Yes/less	No	Less	No	No XX			
▪ Duration	Short	Short	Short/medium	Long	Medium	Long	Very long XX			
▪ Ex ante control	High	High	Lower	No	Low	No	No XX			
▪ Ex post importance	Low	Low	Low/medium	High	Medium	High	Very high XX			
▪ Information shared	Low	Low	Low/medium	High	Medium	High	Extensive XX			
▪ Contract enforcement	Legal	Legal	complex	Bilateral	Complex	Bilateral	Hierarchy			
Summary score total 10										

Source: Sartorius and Kirsten (2005)

2.4.3. Contracts

Vertical coordination, under contracts, involves a producer making an agreement with the buyer, prior to the production and delivery of the product (Catelo & Costales, 2008; Eaton & Shepherd, 2001; Frank & Henderson, 1992; Glover & Kusterer, 1990; Martinez, 2002; Singh, 2005). Transactions that are more asset specific, with high uncertainty (and those that have more measurement costs related to them) will be best transacted under contracts (Martinez, 2002).

In farming, contracts have increasingly become a strategy that agro-processing firms are using, in order to obtain produce from their suppliers. It is through the application of this governance form (within the agricultural sector) that smallholders are also offered an opportunity to participate in commercial agriculture and thereby improve their livelihoods. The concept of contract farming is discussed in greater detail in the following section.

2.5. Contract farming

Contract farming can be defined as an agreement between two parties, one being an agro-processing firm (usually one involved in the food processing business) and the other an individual farmer (Catelo & Costales, 2008; Eaton & Shepherd, 2001; Glover & Kusterer, 1990; Singh, 2005). Contract farming is also referred to as an ‘out-grower scheme’ or ‘satellite farming’ (Singh, 2005), although authors such as Glover and Kusterer (1990) attempt to make a distinction between contract farming and out-grower schemes. These authors refer to contract farming as schemes that are controlled by the private sector: and out-grower schemes as those run by the government. In this study, however, contract farming and out-grower schemes will be taken to mean one and the same thing, an approach followed by several authors, such as Singh (2005) and Baumann (2000).

In contract farming, the farmer is required to produce a particular crop and supply it to the agro-processing firm (Eaton & Shepherd, 2001; Glover & Kusterer, 1990). This agreement is in most cases formal, where the roles of the parties involved are written down, or it is sometimes informal, with just a verbal agreement. In formal agreements, the quantities and

quality of produce is specified. In addition, the services (if any) that the agro-processing firm will provide to the farmers, are also stated. The agreement to terms, followed by the signing of a contract, is generally performed before the crop is grown.

A firm will use contracts (as opposed to spot markets) in order to obtain an assured quality and quantity of produce (Hennessy, 1996; Martinez, 2002). Furthermore, according to Transaction Cost Theory, a firm may decide to enter into contracts with farmers, in order to avoid the investment related to land and equipment and also to avoid the hiring of skilled management and supervisors, which are required to monitor a plantation's operations (Patrick, 2004). There are several different types of contract farming models, which will be explained in the following section.

2.5.1. Contract farming models

Centralised model

A centralised model of contract farming is one where an agro-processing firm buys produce from many small-scale farmers (Abwino & Rieks, 2007; Eaton & Shepherd, 2001). The role of the firm is to provide inputs to the farmers and (in some cases) it is responsible for directly ensuring that the farmer follows some strict agronomic practices, in order to ensure product quality. The produce brought in by the farmers is screened for specified quality and quantity. This model is very common with tree crops and annual crops, such as sugarcane, cotton, tobacco, coffee and cocoa. It is also found in livestock production of poultry, dairy and pork. Figure 2.1 shows a centralised contract farming model.

The nucleus estate model

This model is similar to the centralised model in many ways, except that (in this case) the firm also grows the specified crop on its estate or plantation (Abwino & Rieks, 2007; Eaton & Shepherd, 2001). The crop grown by the firm is either as a guarantee for throughput in the processing plant, or for research purposes. The firm provides both agricultural inputs, in addition to extension services for the farmers. The authors indicated that this model is common in resettlement schemes.

The multipartite model

This model involves a number of different organisations coming together to start a project: and it includes lending institutions (Abwino & Rieks, 2007; Eaton & Shepherd, 2001). This project is then expected to engage farmers to grow and supply a particular produce. The farmers, who become involved in such types of schemes, are usually organised into cooperatives. Village committees are used to help with the selection of farmers, thus ensuring that reliable individuals are chosen. Figure 2.2 shows a multipartite contract farming model.

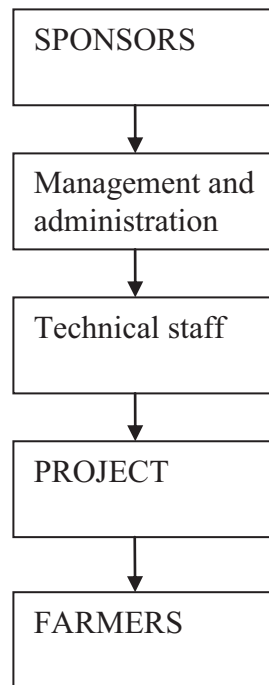


Figure 2.1: The centralised model

Source: Eaton and Shepherd, 2001

The informal model

The informal model does not have a large agro-processing company that buys produce from farmers (Abwino & Rieks, 2007; Eaton & Shepherd, 2001). However, there are a number of small firms that purchase produce from farmers for small-scale processing and they have

informal contracts. In many cases, the government also provides extension services in support of such entrepreneurial arrangements.

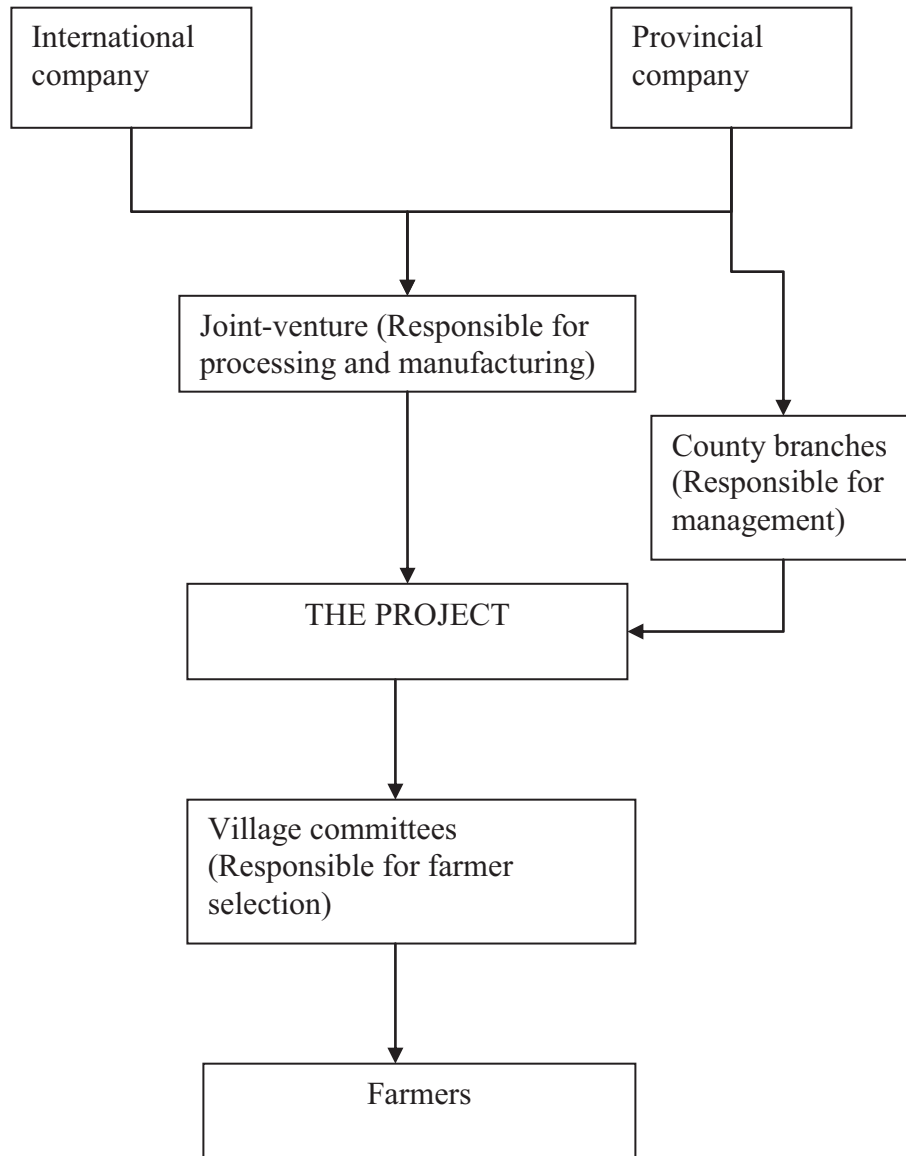


Figure 2.2: The multipartite model

Source: Eaton and Shepherd, 2001

The intermediary model

This model involves middlemen, who enter into supply contracts with an agro-processing firm: and they in turn sub-contract small farmers to supply them with the produce (Abwino & Rieks, 2007; Eaton & Shepherd, 2001). In these types of arrangements, the firm will support the middlemen, who could be individuals or cooperatives. The support given to them may include training in agronomic practices and provision of inputs. These middlemen then have the responsibility of passing on their knowledge and inputs to their farmers. The middlemen are paid a commission, as in the case of some schemes in Thailand. The disadvantage of this model is that the firm does not have any direct control over monitoring the activities of the farmers, in order to ensure product quality. Another disadvantage is that there is a danger of the farmers receiving meagre payments for their produce, since they do not negotiate directly with the firm.

2.5.2. Benefits of contract farming for the firm

As previously mentioned, contract farming arrangements for a firm assures them of desired quality and quantity (Baumann, 2000; Glover & Kusterer, 1990; Weatherspoon, et al., 2001). Having a desired quality allows them to meet their customers' expectations on the final product. In addition, when the firm knows what quantities they expect, it enables them to run their processing plants at optimal capacity. Contract farming also enables firms to expand operations, without having to invest in more land and labour (Baumann, 2000), especially at a time when land is very scarce and its cost is increasingly high (Jayne et al., 2003). Baumann (2000) further added that firms working with small-scale farmers are seen to be championing rural development and hence they are more inclined to obtain government and international support. Consequently, contract farming arrangements in agribusiness are on the increase.

2.5.3. Benefits of contract farming for the small-scale farmers

Small-scale farmers are normally left out of commercial agriculture, because they are poorly resourced (Seshamani, 1998). Due to the market liberalisation policies that 'rocked' developing countries in the 1980s and 1990s, the opportunities for this category of farmers

to venture out on their own are narrow (Catelo & Costales, 2008; Pletcher, 2000; Seshamani, 1998). It has been pointed out the reasons for this situation include the farmers' lack of collateral, which is needed to obtain loans that could assist them to shift their operations from subsistence to cash crops. In addition, smallholders have a limited access to output markets and market information (ACI, 2005). In other cases, the market may be available for a particular cash crop such as sugar and coffee, but small-scale farmers are constrained from being engaged in growing such crops, due to the high costs associated with their production, which may relate to irrigation equipment, the purchasing of other inputs and storage facilities (ACI, 2005; Mwanaumo, 1999; Patrick, 2004). The involvement of smallholders in contract farming arrangements presents them with the following benefits:

Access to new technologies

Small-scale farmers under contract farming arrangements can enjoy the use of new technologies, which they would otherwise not be able to access, due to the associated high costs (Baumann, 2000; Glover & Kusterer, 1990; Martinez, 2002; Weatherspoon, et al., 2001). This is due to the fact that, under some contract farming arrangements, the agro-processing firm is obliged to introduce its farmers to new technologies, in order to improve efficiency and yields. New technologies may include the use of new seed varieties which are high-yielding, disease resistant, or drought tolerant; and equipment for planting, irrigation and harvesting.

Access to inputs

In the case of small-scale farmers, acquiring inputs such as seed and fertilisers, which are necessary for them to carry out their farming activities, may pose a problem. Therefore, contract farming allows them to receive these necessary inputs because (in the majority of the arrangements) the agro-processing firm will provide the farmers with the necessary inputs, on credit payable after the harvesting of the crop (Baumann, 2000; Glover & Kusterer, 1990; Simmons, Winters, & Patrick, 2005; Weatherspoon, et al., 2001). Usually the debts owed to the firm are deducted from source and the farmers are given the balance of their income, even though this usually results in suspicion, as farmers may not be certain

if the deductions clearly reflect their real debts, as seen in the Vuvulane Irrigation project in Swaziland (Tuckett, 1977).

Availability of a market for their produce

Contract farming offers smallholders a ready market for their produce (Baumann, 2000; Glover & Kusterer, 1990; Weatherspoon, et al., 2001). As a result, the farmers do not have to incur the costs of searching for a market to sell their produce, which tends to be a problem. Glover and Kusterer (1990) indicated that the agro-processing firm bears the costs and risks associated with marketing the product.

Already determined prices

Local market prices are unstable and they will vary, depending on the supply and demand of a particular product (Baumann, 2000). This can be difficult for small-scale farmers, since the majority do not have storage facilities to store their produce for a later period when market prices have improved. With contract farming, the farmers and the agro-processing firm agree on a particular price, prior to the harvest (Baumann, 2000; Glover & Kusterer, 1990; Weatherspoon, et al., 2001). This price is usually paid to the farmers, regardless of whether the prevailing market prices are different. The farmer is thus assured of a stable income.

Overall increase in farm incomes

Contract farming has the potential to increase the incomes of small-scale farmers (BIRTHAL, Joshi, & Gulati, 2005; Glover & Kusterer, 1990; Weatherspoon, et al., 2001). Many case studies of farmers under contract farming have attested to this fact (Bachmann & Zaheer, 2008; BIRTHAL, et al., 2005; Glover & Kusterer, 1990; Weatherspoon, et al., 2001).

It is, therefore, generally agreed that contract farming does have the potential to improve the livelihoods of the smallholder farmers involved. Nevertheless, this governance form is not without criticism. The major critiques of contract farming are outlined in the following section.

2.5.4. Disadvantages of contract farming

Skewed power relationships

The power imbalance, which exists between the firm and the small-scale farmers, is one of the major criticisms of contract farming (Sartorius & Kirsten, 2007). Contract farming can become exploitative, when a severe power imbalance exists between a firm and its contracting farmers (Warning & Key, 2002, p. 262). Little and Watts (1994) added that, in contract farming where the power relationship between the farmers and the firm are completely skewed to the side of the firm, there is a danger of reducing the farmers' role to being mere labourers. Agro-processing firms tend to have an upper hand in production decisions and they also tend to make decisions that are more in their favour: both profit and risk-wise (Glover & Kusterer, 1990). Farmers, on the other hand, tend to be locked into these contracts, due to the inputs and other technologies that they have obtained from the firm, thus leaving them dependent on the firm for their survival. This power imbalance tends to be exacerbated in the case where farmers do not have any alternative sources of income or alternative markets for their produce, thus meaning that there is only one buyer for the farmers' produce: a condition known as *monopsony* (Besanko, et al., 2008; Sivramkrishna & Jyotishi, 2008). This is supported by Glover and Kusterer (1990) from their study on a contractual arrangement in Guatemala, where small-scale vegetable farmers solely depended on a processing company called Alimentos Congelado, S. A. (ALCOSA) for their income and market. In this case, when that company withdrew their market, the farmers were left helpless, since they had no alternative markets for their cauliflowers and they were not willing to shift to the production of more traditional vegetables, which would only sell for very little in the local market.

Farmer entrepreneurial abilities

In their study on contract farming in Thailand, Sriboonchitta and Wiboonpongse (2005) conclude that “contract farming could lessen farmers' entrepreneurial ability but increase precise managerial skills” (p. 373). They related this to the close monitoring and supervision that the farmers receive from a firm. The authors indicated that this has the

danger of reducing the farmers' innovative abilities such that, if they were to be left alone, they would not know how to make important farm management decisions.

Farmer equity

Although there is evidence to show that farmers' incomes are increased under contract farming, Watts et al. (1988, as cited in Porter & Phillips-Howard, 1997) indicated that there is no evidence that contract farming increases farmers' equity. This means that farmers spend their income on consumable goods (such as food and clothes) and they do not invest in assets that would appreciate in value, overtime.

Studies on this subject have revealed certain conditions, which are necessary to avert the drawbacks of contract farming. These conditions can either be of benefit to the firm, or the smallholders. The major conditions are now discussed.

2.5.5. Increasing benefits of contract farming to the firm

Monopsony, which refers to many sellers of a commodity and only one buyer (Besanko, et al., 2008; Sivramkrishna & Jyotishi, 2008), is considered a necessary condition for contract farming to work successfully (Glover & Kusterer, 1990; Singh, 2002b). This condition is of more benefit to the firm, because it reduces the risk of product leakage, since there will be no alternative markets for the farmers. Therefore, contract farming arrangements are more common, in cases where there is only one buyer: or only a few buyers for the farmers' product. A number of case studies on contract farming schemes have suggested practical ways in which firms can increase their benefits and also the ease in which they can manage these types of arrangements. Some of these suggestions are now outlined:

Liaison officers

A study of a Nigerian contract scheme, which involved farmers growing barley for a firm called Jos International Breweries (JIB), revealed that having local people as field workers (and in other positions in the firm) bridged the communication gap between the farmers and the firm (Porter & Phillips-Howard 1997). The authors also presented another example

from a South African sugar contract scheme, which also supports this notion. In this scheme, the inclusion of a local black man in the management team helped to build up a rapport between the farmers and the firm, which was comprised of mainly white people. The farmers trusted this link and therefore he was able to facilitate negotiations between the two parties. Porter and Phillip-Howard thus concluded that the presence of what they called “liaison and extension officers”, who are also local people, is an essential element in contract farming because they can assist in interpreting important issues to the farmers. As a result, the farmers have a better understanding of the situation and it also helps in resolving disputes between the farmers and the firm.

Working with farmers' groups

Firms reduce their transaction costs when they offer contracts to farmers' groups, rather than individual small farmers (Coulter, Goodland, Tallontire, & Stringfellow, 1999; Hovhannisyan, Urutyanyan, & Dunn, 2005; Patrick, 2004). The cost of screening, monitoring, supervision and collection of produce are all reduced, because the firm would be dealing with one unit and not several small farmers.

Use of community contacts

As suggested by Warning and Key (2002), the use of community contacts, when selecting who to contract, can assist firms to deal with more honest and hardworking farmers. Such individuals are less likely to breach their contract with the firm. This is an important aspect, since the legal systems in developing countries are poorly developed and therefore it would be costly and futile to sue a farmer, who has failed to meet his/her end of the bargain (Kirsten & Sartorius, 2002; Runsten, 1994; Weatherspoon, et al., 2001).

2.5.6. Increasing benefits of contract farming to small-scale farmers

As previously pointed out, unequal power relationships between firms and farmers are the major criticism of contract farming. Therefore, if benefits to small-scale farmers under contract farming are to be increased, the power imbalance should be reduced, in order that farmers are not exploited. Many ways of reducing this power imbalance and thus increasing

the benefits for contracting farming to small-scale farmers, have been highlighted in the literature. Some of these are now discussed:

Alternative markets

One way in which the benefits to smallholders can be increased is through the availability of alternative markets for their contracted crop (Warning & Key, 2002). This assists farmers because, in cases where the firm attempts to manipulate them, they can supply another market which may even offer a better price. As observed in a Senegalese ARB programme, it was difficult for the firm, NOVASEN, to exploit its peanut-growing farmers, because there were alternative markets for their produce and inputs. Another example comes from Thailand, where the farmers were more in control of the market and they were not obliged to sell their produce to a specific agro-company (Sriboonchitta & Wiboonpongse, 2005). As such, they were able to sell to whoever offered them a satisfactory price. Therefore, if an agro-processing firm wanted to maintain their relationships with their farmers, they would have to offer them a really excellent bargain. Again, the authors attributed this 'farmer control' to the presence of strong and active farmers' organisations, in addition to the farmers' developed skills in growing the peanuts.

Alternative sources of income

In a Nigerian barley contract scheme, the majority of the farmers had only dedicated a small portion of their land (generally less than one hectare) to growing barley for a brewery firm (Porter & Phillips-Howard 1997). They used the other portion of their land to grow mostly vegetables for other markets. These alternative sources of income placed the farmers in a more superior position, when they bargained for better conditions from the firm. This observation is in line with Glover and Kusterer (1990) conclusions, in their case studies of various contract schemes in developing countries: Farmers, who are completely dependent on their contract crop, tend to hold a low bargaining power and therefore they will settle for any terms. Porter and Phillips-Howard (1997) gave another example of a contract farming scheme in South Africa, whose farmers showed signs of vulnerability and dependency, since they solely depended on their contract crop sugarcane for their livelihood. This situation arose, because one of the conditions offered to the farmers (under

this scheme) was that they had to use their land for the production of sugarcane — except for a small garden near their home.

Previous experience

Another factor, which could help increase the benefits to smallholders, is previous experience with multinational corporations. Porter & Phillips-Howard's (1997) study on a barley contract scheme in Nigeria revealed that the farmers had previously dealt with tin-mining multinational corporations in their area: and from that experience they were more cautious and less naive in dealing with the firm.

Asset ownership and water user rights

Porter and Phillips-Howard (1997) also indicated the importance of land ownership and water user rights. Farmers, under the Nigerian JIB scheme grew barley on their own land and used local water resources. Thus, they were seen to be less dependent on the firm. This situation, however, tends to be a disadvantage for the firm, because it becomes difficult to ensure that farmers follow the recommended production practices. Another aspect pointed out by Warning and Key (2002) is that power imbalances are less, when a scheme utilises the assets and skills that farmers use in the cultivation of other crops, such that, if they wanted to pull out of the programme, they would be able to devote their assets to the production of another crop, without needing to acquire any new assets or skills.

Farmers' groups

The concept of farmers' groups comes from the theory of 'collective action', which speaks of different individuals or groups of people coming together to pursue a common goal (Kherallah & Kirsten, 2002). When farmers are organised, they are better able to access profitable markets and their bargaining power increases. Coulter, et al. (1999) pointed out that cooperative formations or farmer organisations and contract farming are stated to work best together. This is because this situation tends to reduce the unequal power relationships that so often exist between farmers and contracting firms (Patrick, 2004; Sartorius & Kirsten, 2007). However, for collective action (or indeed farmer groups) to work, Olson

(1971, as cited in Kherallah & Kirsten, 2002), indicated that issues of homogeneity, size and purpose of the group, are very important. The more heterogeneous and large a group, the more divergent will be its goals and needs and the greater the difficulty of collective action. In addition, if the group has no clear purpose, it will be difficult to plan for activities that are beneficial for the group. Therefore, a more homogeneous and relatively small group size will be able to counter the problems associated with farmer groups, such as free-riding, moral hazards and agency problems (Kherallah & Kirsten, 2002; Sykuta & Cook, 2001). Furthermore, it will be easier for them to influence policy formulation.

Other benefits of belonging to a farmers' group include those associated with economies of scale, since the members can pool their resources together (Morrow, Hansen, & Batista, 1999). It is also an opportunity to learn from the partners, given that members will have different skills and experiences. Yet another benefit relates to the fact that, in a farmers' group, members share the costs and risks associated with production. Finally, as individuals come together, the added resources and skills offer them a greater opportunity to venture into new markets and industries and to also try out new technologies. Farmers' groups are thus seen as one way of increasing the market power of farmers, who are the primary producers (Reader, Walsh, Alliston, Gonzalez-Diaz, & Newton, 2006). The result of the formation of farmers' groups is expected to be increased profits for the farmers and their ability to compete more favourably with other business entities, within the same industry. In addition, it minimises the likelihood of smallholder farmers being left out of contractual arrangements that could allow them to produce cash crops.

Some of the specific roles of a farmers' group or cooperative in contract farming, as suggested by Kirsten and Sartorius (2002), include bargaining for better contract conditions for farmers; availing its members with necessary production and marketing information; and supplying its members with inputs. In this case, the firm would play a larger role in strengthening the knowledge and skill capacity of the group, since it also stands to profit from the arrangement.

Farmers' association versus farmers' cooperative

Farmers' cooperatives are considered business entities and therefore their activities are aimed at combining their members' resources and increasing the returns from their investments (Dunn, 1988). Farmers' associations, on the other hand, are not business entities, but instead they are bodies that attempt to involve farmers in decision-making and policy formulation (CIESIN, 2010). Farmers' associations encompass farmers and their organisations. They constitute a body elected by its members, which is responsible for running the affairs of the association. The roles, which farmers' associations are expected to play, as given by CIESIN, are as follows:

Consultation function

Farmers' associations are expected to listen to the different farmers under them and thereby be able to take part in policy formulation at all levels.

Information function

Farmers' associations are expected to inform farmers about the opportunities available and the ways in which to improve their productivity and incomes. It is their role to inform farmers about issues such as the best farm management techniques and required product standards. Farmers' associations are also expected to air programmes on local radio stations that are relevant to the wider rural community. In addition, it is their role to inform the government (and other relevant bodies) about the conditions of farmers and rural areas, in general.

Professional organisation of farmers-support function

Farmers' associations are expected to support the autonomy of their farmers' organisations. They are also expected, through their information function, to help raise support for the organisations.

Although an opportunity to integrate smallholders into contract farming arrangements may be present, the probability of leaving out poor individuals, who are more in need, is high

(Glover & Kusterer, 1990; Singh, 2002a). The reason for this is that the selection criteria, which agro-processing firms tend to use, generally includes access to land, production knowledge, some minimum education and the availability of labour (Baumann, 2000). Individuals who meet these criteria would, therefore, be contracted and thus their lives would improve (Porter & Phillips-Howard 1997). However, if poverty is to be alleviated there is a need to also capture and integrate the very poor in such arrangements.

2.5.7. Facilitating the inclusion of poor rural dwellers

The following section offers some of the suggestions in the literature that relate to the inclusion of poor rural dwellers:

Farmers' group formation

When farmers organise themselves into a group, they increase the opportunity to be integrated into contract farming schemes. Organised farmers were one of the selection criteria used by contracting firms, in the Indonesian case studies conducted by Patrick (2004). These firms chose to contract with organised farmers because it reduced their transaction costs and the time spent in monitoring farmers, to ensure that they complied with their side of the contract (Patrick, 2004; Runsten, 1994). This responsibility was assumed by the group because, if an individual did not comply with the contract obligations, they would be jeopardising the standing of the remainder of the group.

Use of community contacts

The use of community contacts, to help in the selection of participants, is considered one other way of ensuring that the poor also participate in these schemes (Warning & Key, 2002). This is because local leaders are better placed to know who is honest and credible and thus, this is a form of social collateral for the programme.

Common property

The provision of land, under common property regimes, can allow the 'landless' access to land, in order to help them participate in contract farming schemes (Chen, 1989).

Type of commodity

The type of commodity to be produced is important to the inclusion of smallholders in contract farming (Glover, 1987; Patrick, 2004). Patrick (2004) pointed out that, if the production of a commodity is largely labour intensive, smallholders are more suited to participate because they rely on family labour, which is relatively cheap. More capital intensive commodities would be advantageous to larger growers, since they have greater access to credit and land and other necessary resources.

Based on the contract farming literature, Figure 2.3 shows the factors that are stated to contribute to the successful integration of smallholders in vertical coordination.

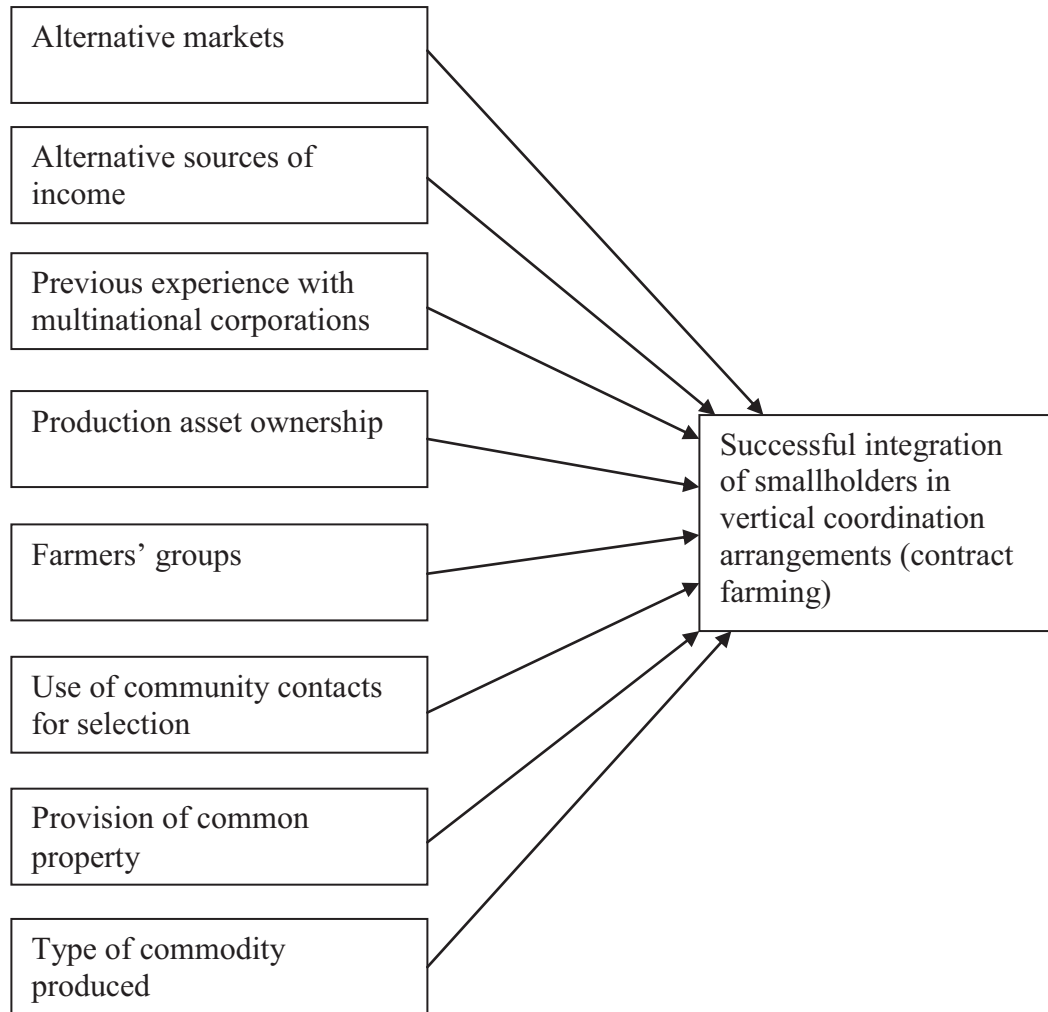


Figure 2.3: Factors affecting the successful integration of smallholders in vertical coordination arrangements (contract farming)

2.6. Factors that affect the success of vertical coordination arrangements

When a vertical coordination arrangement is formed, its success becomes a concern to all parties involved. Success in vertical coordination arrangements can be viewed from several different angles: the satisfaction of the parties involved (Mohr & Spekman, 1994; Monczka, Petersen, Handfield, & Ragatz, 1998); the price obtained and the incomes received (Church, et al., 2008; Glover & Kusterer, 1990; Monczka, et al., 1998; Weatherspoon, et al., 2001); productivity (Church, et al., 2008; Mohr & Spekman, 1994); and sustainability,

in terms of how long the collaboration lasts (Anderson & Weitz, 1989; Whipple & Frankel, 2000). Therefore, there are many facets to success but ultimately, if that arrangement were to last a long time, the assumption would be that the parties involved were satisfied. Moreover, if it was observed that the involvement of smallholders in such types of arrangements was beneficial to them (and indeed to an entire nation), since poverty levels had been seen to fall, then the concern of the stakeholders would be how to make sure these arrangements were sustainable. In this way, the smallholders would be able to continue reaping the benefits. This section, therefore, examines the factors found in the literature, which are considered important to the success of vertical coordination arrangements. The factors are divided into four categories: *context, management, and social capital*.

2.6.1. Context

Context is considered of importance in the study of organisational relationships (1997) because it “can be used to characterise the situation of an entity” (Dey, 2001, p. 5). The following are amongst the factors that describe the context of collaboration and which affect its success:

Initial conditions

The “initial conditions” within which collaboration is formed, contribute to its success (Arino & De La Torre, 1998; Doz, 1996; Hoffmann & Schlosser, 2001). These initial conditions can include what the parties involved expect to get out of the relationship; whether or not the roles of the parties are well defined; and how the parties involved will be expected to interact and coordinate their activities. If the initial conditions are right, the collaboration will be expected to succeed.

Interdependence

Interdependence is one of the factors that is stated to bring different parties together in a collaborative arrangement and it is also one of the factors that ensures the success of the partnership (Kumar, Scheer, & Steenkamp, 1995; Monczka, et al., 1998). Simply put, the definition of interdependency is “a firm’s inability to replace its [existing] partner” (Kumar,

et al., 1995, p. 349): that is, one partner needs the other and vice versa, in order for them to succeed in their undertakings.

Findings by Monczka, et al. (1998) in their study on ‘strategic supplier alliances’ show that interdependence is one of the factors that contributes to the success of a partnership. However, in the case where one partner is more dependent on the other (rather than the other way around), such a relationship is bound to fail, since there will be increased conflict and distrust between them (Kumar, et al., 1995).

Power relationships

Power can be defined as “the ability to influence, control, or resist the activities of others” (Huxham & Beech, 2008, p. 555). In collaborations, it is not expected that the parties involved will share power equally. However, collaborations which have an insignificant power imbalance, will be expected to work better than otherwise (Fischer et al., 2009; Reynolds, Fischer, & Hartmann, 2008). There are various sources of power in collaborations and these can be grouped into macro-level and micro-level (Huxham & Beech, 2008).

Macro-level sources of collaboration power

This type of power relates to how the relationship between the collaborating parties is organised and it stems from: *power based on need imbalance; power based on importance imbalance; and power based on structural position* (Huxham & Beech, 2008). Power based on need imbalance relates to who has the resources in the relationship. It is expected that the party who owns and controls resources, such as skills, information and money, will have power over the other party. In regards to power based on importance imbalance, the party that is more dependent on the other (in achieving its goals) will have less power. This means that, if the reputation of one party is directly linked to the products produced, the other party has power over that party. In addition, when one party has alternative partners with whom it can collaborate and therefore it can easily pull out of the relationship, then that party has power over the other. On the other hand, power based on structural position refers to one party being central in the relationship and assuming the position of a ‘lead’

partner. Such a partner will have an influence over the other parties to the collaboration, by virtue of its position. Furthermore, when one party has networks with other organisations, it can be said that they have structural position power.

Micro-level sources of collaboration power

With micro-level sources of collaboration power, the focus is on the day-to day operations of the collaboration (Huxham & Beech, 2008). These powers can manifest themselves, when parties to the collaboration meet to discuss issues. In such types of scenarios, even those considered to be less powerful under the macro-level definition, can exercise some form of power in certain situations. In addition, micro-level sources of collaboration power are observable in the case of who gives the ‘go-ahead’ on how finances are to be used. Table 2.2 gives a summary of the sources of these categories of power.

Table 2.2: Sources of inter-organisational power

Power based on need imbalance (e.g. skills, information, money)	Power based on importance imbalance (e.g. strategic centrality, uniqueness, sanctions)	Power based on structural position (e.g. formal authority, network centrality, discursive power)	Power based on day-to-day activities (points of power inherent in the relationship process)
<i>Macro-level</i>		<i>Micro-level</i>	

Source: Huxham and Beech (2008)

When there is evidence of power asymmetry between collaborating parties, the more powerful party will tend to impose its will on the less powerful one (Matopoulos, et al., 2007). This situation then has the potential to reduce free negotiations and commitments, and it can result in the dissatisfaction of the less powerful party, thus corroding the relationship.

However, Matopoulos, et al. (2007), in their study on a collaboration relationship between two firms, revealed that at the start of the collaboration one of the firms had more power over the other: and yet the less powerful firm tolerated the situation, due to the benefits it was receiving. Nevertheless, this dependency did not last forever because, later on, the less powerful firm ventured into new business activities, which caused it to become more powerful than the other firm, thus shifting the power asymmetry.

2.6.2. Management of relationships

Since vertical coordination arrangements may involve the participation of two or more major stakeholders, a competent management of these relationships is important, in order to improve on their success. The following are some of the important management factors found in the literature:

Learning

Collaborating parties go through the process of negotiating and re-negotiating their commitments, at the same time evaluating the collaboration, in terms of efficiency and equity (Arino & De La Torre, 1998; Ring & Van de Ven, 1994). These researchers pointed out that the more collaborating parties move along this process cycle, the more they learn — and the more they are able to implement measures that are more efficient and more equitable for all parties. This is consistent with the empirical findings of Doz (1996) that “alliances” that continuously go through the process cycle tend to perform better and last longer, than those that are rigid.

Coordination

Coordination is “the act of working together harmoniously” (p. 358). Coordination theory, on the other hand, is “a body of principles about how activities can be coordinated, that is, about how actors can work together harmoniously” (p. 358). When collaboration is formed, coordination becomes an important aspect of that relationship (Pfeffer & Salancik, 2003). This is because it refers to how the various activities in collaboration are conducted and who is responsible for carrying out which activity. All this is undertaken, in order for the

collaborating parties to be able to achieve their goals for working together. Studies conducted by Mohr and Spekman (1994) and Monczka, et al. (1998) revealed that coordination is actually a factor, which contributes to the success of collaborations.

Conflict resolution

Conflicts in collaborations are inevitable and their handling is important, if the collaboration is to be a success (B. Gray, 2008). Arino and De La Torre (1998) argued that putting in place acceptable conflict resolution strategies, at the beginning of a collaboration, will have a positive impact on the quality of the relationship and it will contribute to the longevity of the relationship. Monczka, et al. (1998) and Mohr and Spekman (1994), in their separate studies on factors affecting the success of collaborations, found that the use of conflict resolution tactics that are more 'constructive': that is, those that involve finding solutions through mutual understanding between partners, result in the success of collaborations, unlike the use of 'destructive' methods that involve demeaning each other.

One of the ways through which conflicts can be handled is mediation by a third party, or by one of the members in the relationship (B. Gray, 2008). When a neutral person helps resolve conflicts between the parties involved, his/her role is to engage them in discussions about their problem and to find the best way to move forward in their relationship. Conflict resolution, through mediation, allows for the conflicting parties to decide on a course of action together, rather than unilaterally (Arino & De La Torre, 1998; B. Gray, 2008) and it offers the parties involved a sense of respect, rather than when it is done through the court (B. Gray, 2008). However, B. Gray indicated that the presence of a neutral party to mediate does not guarantee that the conflict will be resolved. B. Gray also pointed out that this usually happens when one of the parties involved considers the other to be a rival, instead of a partner. As such, it would be difficult for the mediator to perform his/her duties, unless that party changes his/her views. A mediator works to reach a position where both parties are satisfied and this entails the reinforcing of levels of trust between the conflicting parties. A mediator also ensures that the parties fulfil the commitments made during the process of conflict resolution.

2.6.3. Social capital

Organisational social capital, as defined by Gabbay and Leenders (2001), “consists of the stock of active connections among people; the trust, mutual understanding, shared values and behaviours that bind the members of human networks and communities and make cooperative action possible” (p. 4). According to this definition, social capital is an essential element to the success of any collaboration, whether it is between individuals or between different organisations. This is also supported by the studies on vertical collaborations in the ‘European agri-food supply chain’, by Fischer, et al. (2009) and those by Reynolds, et al. (2008) on the relationship between farmers and processors in German meat and cereal industries. Both these studies reveal that the existence of personal bonds does contribute to a long-term, mutually satisfying relationship.

Social capital is stated to build trust between collaborating parties (Adler & Kwon, 2002; Cohen & Prusak, 2001; Fischer, Gonzalez, Henchion, & Leat, 2007). Adler and Kwon (2002) further indicated that, where there is the presence of social capital, information will be shared more easily and freely amongst partners. Furthermore, Tsai and Ghoshal (1998), in their study on the role social capital plays within a firm, found that the nurturing of social capital overtime resulted in increased benefits in that firm, since resources would be exchanged and combined more effectively. Their findings were in support of an earlier study by Nahapiet and Ghoshal (1998). However, Nahapiet and Ghoshal (1998) had made a strong suggestion from their study that “Differences between firms, including differences in performance, may represent differences in their ability to create and exploit social capital” (p. 260). Both these studies suggest that the development of social capital is not a one-time event, but it occurs over a long period of time.

However, Gabbay and Leenders (2001) emphasised the point that having social capital in an organisation does not necessarily mean that all the parties involved will like each other, or even be ‘nice’ to each other: It is about them creating connections between themselves that enable them to work through their problems and find more effective ways of achieving their mutual goals and objectives.

Communication and trust, being among the main indicators of social capital, are now examined in greater detail.

Communication

The sharing of information is an important aspect of any relationship. More importantly, ‘effective communication’ or ‘quality communication’ between collaborating parties can determine the sustainability of that relationship (Mohr & Spekman, 1994; Monczka, et al., 1998; Reynolds, et al., 2008). Effective (or quality) communication indicates the sharing of information that is relevant for better decision-making and the achievement of set goals and thus a long-term relationship (Fischer, et al., 2009; Mohr & Spekman, 1994; Monczka, et al., 1998; Reynolds, et al., 2008).

Reynolds, et al. (2008) indicated that it is important that the dominant member within the relationship takes a lead in improving the communications within the relationship and that they build personal bonds with the other parties. Effective communication can be enhanced by the dominant member employing personnel with whom the other party has commonalities: be it cultural and/or social. This point is supported by Porter and Phillips-Howard (1997), who draw this conclusion from their study on a Nigerian contract scheme of farmers growing barley for a firm called Jos International Breweries (JIB). This study revealed that having local people as field workers (and in other positions in the firm) bridged the communication gap between the farmers and the firm.

Information is stated to be shared more freely in a farmers’ group, because the members have a common goal and they are the ones that control the resources (Sykuta & Cook, 2001). In the case of a relationship between a firm and its input suppliers, the degree of information asymmetry can be quite high (Besanko, et al., 2008; Sykuta & Cook, 2001). Sykuta and Cook (2001) explained that, if a firm increases payment to its input supplier, the result is income reduction on its part. Therefore, the chances of the firm withholding information that might improve the welfare of its suppliers is high, since its primary goal is to improve its own welfare and not that of its suppliers.

Trust

Although trust is not considered of importance in the ‘New Institutional Economics’ literature, it is regarded as such in collaborations by other researchers, such as Bachmann and Zaheer (2008), Mohr and Spekman (1994) and Monczka, et al. (1998). Contrary to the views of researchers, such as Williamson (1993), who indicated that firms and individuals enter into collaborations through “calculative” means, by considering the gains they would obtain from such arrangements, Bachmann and Zaheer (2008) argued that there are not only benefits when entering a collaboration, but there are also risks — and what makes different parties collaborate, regardless of this situation, is the level of trust they have in the other party. They indicated that it is this trust that allows parties to believe that the other party will fulfil their side of the contract. Bachmann and Zaheer further added that firms, which do not trust each other, will tend to put in place monitoring measures that can prove to be costly. Eventually, such types of collaborations will fail, due to high costs, leaving only those who have some level of trust between each other. This is in agreement with studies conducted by Monczka, et al. (1998) and Mohr and Spekman (1994), which reveal that there is a strong positive correlation between trust and the success of a collaboration, in particular, the satisfaction that is related to the incomes obtained.

Fischer, et al. (2007) pointed out three major sources of distrust. One is when there is a lack of clear definition of quality. This can occur where only one party to a relationship determines what quality is acceptable and how it is to be rewarded. A second source of distrust is when the economic environment in which the business operates is weak, thus resulting in the players struggling to maximise their returns. Thirdly, when there is a dominant member in the relationship, it may result in distrust from the other members, because there is the likelihood that the dominant member will put in place measures that are more in his/her favour. In addition, Matopoulos, et al. (2007) presented findings, which indicate that the more volatile a product is (in terms of its market price and its quality) the more the opportunities for the trust-building process between the parties involved being hindered. In another study on ‘The Effect of Contracts on Interpersonal Trust’, conducted by Malhotra and Murnighan (2002), where experiments were conducted on groups of people to see how binding contracts and non-binding contracts affect trust, the results show

that the use of binding contracts and formal, legally enforced agreements, tended to foster parties to work together: and yet it discouraged the building of trust. In the other case of non-binding contracts, which are informal agreements, parties were not as committed to the agreement, as those under binding contracts, but the level of trust between them was higher and it tended to be built up with communication.

2.7. Summary

This chapter has reviewed the literature related to the subject matter under investigation. The chapter showed that through contract farming, smallholders are offered the chance to be integrated in vertical coordination arrangements, thus being able to improve their livelihoods. The benefits of contract farming, to smallholders, include: access to new technologies; access to inputs; availability of a market; pre-determined prices; and increased incomes. The chapter revealed that the major criticism has been power imbalance, which in many cases, renders such types of arrangements unfavourable for smallholders. In order for smallholders to be successfully integrated into vertical coordination arrangements, contract farming literature suggests the following: availability of alternative markets; availability of alternative sources of income; previous experience with multinational corporations; ownership of production assets; formation of farmers' groups; use of community contacts in the selection process; provision of common property; and the production of labour intensive crops. Further, the chapter presented factors which are stated to affect the success of vertical coordination arrangements, and these fall under the variables of context; management skills, and social capital.

Chapter Three: Study country

3.1. Introduction

This chapter presents background information on the study country, Zambia. Firstly, a brief description of the country is given and then a description of the agricultural scenario is shown. Thereafter, the Zambian sugar industry is presented, with particular attention being paid to the Zambia Sugar Company, which produces 93% of the country's sugar. The chapter then introduces the expansion programme of this company, and the room and opportunity that such an expansion creates for the involvement of smallholders in commercial agriculture.

3.2. Country description

Zambia is a landlocked country, located in Sub-Saharan Africa. It is bordered by eight different countries: Namibia, Angola, Tanzania, Democratic Republic of Congo (DRC), Botswana, Zimbabwe, Malawi, and Mozambique, as shown in Figure 3.1.

Zambia is divided into nine provinces, namely, Southern, Northern, Western, Eastern, North-Western, Luapula, Copperbelt, Central, and Lusaka Provinces. The population of Zambia was estimated to be 12.0 million in 2009 (World Bank, 2010). Zambia has three main agro-ecological regions: Region I, in the southern part of the country, receives an average of 500-800mm of rainfall per annum; Region II, in the central part, receives 800-1000mm rainfall; and Region III, in the northern part of Zambia, receives, on average, 1000-1200mm rainfall.

3.3. Agriculture

Zambia's climate is suitable for a wide range of crops across the entire country, although there are some areas that are more suitable for certain types of crops (DFID, 2002). Some of the crops produced in the country are maize, millet, sorghum, tobacco, cotton, rice,

groundnuts, wheat, sunflower, sugarcane, tea, coffee, pineapples, citrus fruits, bananas and vegetables. The main export crops include cotton, tea, coffee, tobacco, sugar and paprika.



Figure 3.1: Map of Zambia

Source: <http://media.maps.com/magellan/Images/ZAMBIA-W1.gif>

Farmers in Zambia are categorised into three main groups: small-scale (also referred to as smallholders); emergent; and large-scale farmers (DFID, 2002) (Table 3.1). The major characteristics that distinguish these different categories are land size; type of crops produced; the dominant cultivation technologies utilised; and the production focus (Siegel, Alwang, and Development, 2005, as cited in Haankuku, 2010). Smallholders comprise the majority of farmers in Zambia and (in 2005) there were estimated to be 800,000 (Thurlow, Benin, Diao, Kalinda, & Kalinda, 2008). This category of farmer grows mostly food crops of maize, millet, sorghum, and groundnuts for household consumption, on land sizes of less than 5 Ha.

Table 3.1: Classification of farmers in Zambia

	Approx. # of producers	Approximate farm size	Technology cultivation practice	Crops and production focus	Location
Small-scale farmers	800,000 house holds	< 5 Ha (with majority cultivating 2 or less Ha of rain-fed land)	Hand hoe, minimal inputs, family labour	Staple foods, primarily home consumption	Entire country
Emergent farmers	50,000 house holds	5-20 Ha	Oxen, hybrid seed and fertiliser, few with irrigation, mostly family labour	Staple foods and cash crops, primarily market oriented	Mostly line of rail (Central, Lusaka, Southern Provinces), some Eastern, Western Provinces
Large-scale commercial farms	700 farms	50-150 Ha	Tractors, hybrid seed, fertiliser, some irrigation, modern mechanisation, hired labour	Cash crops, market oriented	Mostly Central, Lusaka, Southern Provinces
Large corporate operations	10 farms	1000+ Ha	High mechanisation, irrigation, modern mechanisation, hired labour	Cash crops, market oriented (mainly through vertical integration)	Mostly Central, Lusaka, Southern Provinces

Source: Siegel, et al. (2005, as cited in Haankuku, 2010)

Commercialisation for Zambia's smallholders has been difficult, partly due to the effect of the agricultural reforms of the 1990s (Seshamani, 1998). The major constraints for the smallholders to participate in commercial agriculture in a liberalised economy are the following:

Access to credit

Seshamani (1998) elaborates by saying that with the implementation of the agricultural reforms in Zambia, large-scale farmers, with collateral could get loans and expand their operations, shifting to the production of cash crops that could be exported, whilst smallholders (who could not access loans because they lacked collateral) could not further their farming activities. As a result, small-scale farmers have continued to produce food crops with little participation in commercial agriculture.

Access to market and market information

Smallholders have limited access to output markets and market information (ACI, 2005). Even if they were to find inputs for their production activities, they would still find it hard to sell their produce. In most cases, they do not have an idea what types of products have a market and where the market is, so they end up producing what is convenient for them, which they end up finding difficult to sell.

Access to irrigation

Smallholders rely on rains for their agricultural production due to the high cost of irrigation infrastructure (ACI, 2005). As a result, their production is dependent on good rainfall. In the case of a drought, they stand to lose their crop and therefore earn very little out of their labour.

Storage facilities

Before the implementation of the agricultural reforms, the state provided storage sheds in which farmers could store their produce (Mwanaumo, 1999). However, after the reforms, it is the responsibility of each farmer to invest in storage infrastructure. Smallholders are therefore forced to sell off their produce at give-away prices because they lack storage facilities to keep their produce until a time when prices improve.

Remoteness

The majority of smallholders are located in rural areas far from towns (Siegel et al., 2005, as cited in Haankuku, 2010). The road networks leading to most of such areas is poor, and impassable especially in the rainy season (Mwanaumo, 1999). As a result, it is difficult for these farmers to get their produce into town where a market for their produce may be available. It also makes it difficult for traders to access such areas.

Access to advisory services

Smallholders depend on government extension services for their agricultural advices. However, the number of extension officers servicing these farmers is far too low compared to the number of smallholders that need the service. For instance, in a district like Mazabuka, one extension officer is said to service about 787 smallholders (MACO, 2007). Mazabuka District is however along the line of rail, and so this ratio is expected to be far much better than that for remote areas. As such, smallholders do not have access to adequate advisory services that could help them improve on their production practices (ACI, 2005).

Nevertheless, agriculture is important to the economy of Zambia and in 2004 it contributed 20.5% to the country's GDP (Thurlow, et al., 2008) (Table 3.2). From the crops produced, cereals contributed the highest to GDP at 5.5%, with maize topping the list at 4.8%. High value crops totalled a contribution of 3.5%, with the list being topped by sugar at 1.4%.

3.4. Zambian sugar industry

Currently there are three sugar milling companies in Zambia: The Zambia Sugar Company, which produces 93% of the country's sugar, is located in the Southern Province of Zambia, in Mazabuka District, approximately 125 km from the capital city, Lusaka; The Kalungwishi Sugar Estate is located in the Northern Province of Zambia, in Kasama District; and Consolidated Farming Limited is situated in Kafue District, approximately 45km from the capital city, Lusaka (Nakaponda, 2006). However, the Zambia Sugar Company was, until 2001, the sole sugar miller in the country.

Table 3.2: Contribution of Agriculture to GDP

	Initial value of GDP (ZMK Billion)	Percentage share of total (%)	
		Total GDP	Agricultural GDP
	2004	2004	2004
Total GDP	23,699	100.0	
Agriculture	4,859	20.5	100.0
<u>Cereals</u>	1,307	5.5	26.9
Maize	1,143	4.8	23.5
Sorghum and millet	53	0.2	1.1
Other cereals	111	0.5	2.3
<u>Root crops</u>	444	1.9	9.1
<u>Other food crops</u>	895	3.8	18.4
Pulses and oil crops	100	0.4	2.1
Groundnuts	344	1.5	7.1
Vegetables	283	1.2	5.8
Fruits	168	0.7	3.4
<u>High-value crops</u>	818	3.5	16.8
Sugar	337	1.4	6.9
Cotton	312	1.3	6.4
Tobacco	109	0.5	2.2
Other export crops	61	0.3	1.3
<u>Other agriculture</u>	656	2.8	13.5
Forestry	374	1.6	7.7
Fisheries	282	1.2	5.8

Source: Thurlow, et al. (2008)

45% of the sugar produced in Zambia is used domestically; 45% is sold within the Southern African Development Community (SADC) region; and 10% goes to the European Union (EU) (Nakaponda, 2006). Zambia's sugar exports to the EU come under the 'African, Caribbean and Pacific Group of States-Everything But Arms' (ACP-EBA) agreement. Under this agreement, Zambia has been able to export sugar to the EU tariff free, but there was a specified quota. However, the amounts exported to the EU are expected to increase,

as a result of the EU's removal of quotas under the new ACP-EBA agreement (Bariyo, 2009). Therefore, the sugar industry in Zambia is one that is set to grow and with knowledge on how to better integrate smallholders in vertical coordination arrangements, more farmers can begin to participate in this industry and thus improve their livelihoods.

3.5. Zambia Sugar Company

The sugar milling company, that later came to be known as the Zambia Sugar Company, was established during the time Zambia was under British rule, before the 1960s (Nakaponda, 2006). During this time, it was owned by a British firm, Tate and Lyle. After Zambia gained independence in 1964, the Government of the Republic of Zambia (GRZ) acquired 51% of the company's shares and later this was increased to 78%. However, with the introduction of the 'Structural Adjustment Programmes' in the late 1980s and early 1990s, the Zambia Sugar Company was privatised and its shares were floated. Amongst those who acquired the floated shares were Tate and Lyle, with 50.87% and the 'Commonwealth Development Corporation' (CDC) with 38.8%. In 2001, Illovo Sugar of South Africa purchased these shares from Tate and Lyle and CDC. Illovo owned a total of 89.7% until 2010, when it reduced its shareholding to 81.6%, to make room for a greater participation of Zambians within the industry (Zambia Sugar Company, 2010). The remainder of the company's shares are owned by banks, private companies and individuals in Zambia.

In anticipation of increased export quantities, the Zambia Sugar Company embarked on a factory upgrade, with a sugar output capacity of 450,000 tonnes, which was completed in 2009 (Zambia Sugar Company, 2010). It went ahead and purchased a further 10,422 Ha of farm land, thus bringing its estate land to over 20,000 Ha. The company grows 65% of the sugarcane, which is watered by the Kafue River through irrigation. Since the company is not able to satisfy its plant capacity, it has engaged a total of 18 out-growers, one of whom is the Kaleya Smallholder Company Ltd (KASCOL). Table 3.3 shows KASCOL as Zambia Sugar Company's largest out-grower supplier for the season 2005/2006).

Table 3.3: Sugar cane supply to Zambia Sugar Company (ZSC) in 2005/2006

Area	Total area harvested (Ha)	Total tonnes harvested	Yield	Sugarcane supply (%)
ZSC	10,857	1,290,862	118.9	68.17
KASCOL	2,162	259,897	120.2	13.72
Garner	439	59,854	136.3	3.16
Cere	569	66,829	117.4	3.53
Hama	210	23,574	112.3	1.24
Kap	80	11,893	148.7	0.63
Syr	92	14,028	152.5	0.74
Nanga	1,315	156,925	119.3	8.29
Anchor Ridge	68	7,012	103.1	0.37
ZIAH	22.5	2,734	121.5	0.14
Total	15,814	1,893,608	119.7	100

Adapted from: ISO (2008)

Currently, the only smallholders involved in the sugar industry are the 160 smallholders who produce under KASCOL (ISO, 2008). However, as a result of Zambia Sugar Co.'s expansion programme, there are two other settlement areas under development, where smallholder farmers will soon start to produce sugarcane, in order to supply the Zambia Sugar Co. (Zambia Sugar Company, 2010). One of the projects being developed, partly by the Zambian government, is in an area called Manyonyo, where approximately 164 smallholders will grow cane on a total of 555ha. Another project is in Magobbo and this is set to accommodate between 70 and 80 smallholders on 440ha of land. These two projects, however, will use different models from the KASCOL one, although discussions about the KASCOL management team also running these projects are in progress.

As expansions are taking place and opportunities for the involvement of smallholders are opening up, it becomes important to study the existing experiences of the KASCOL model: in order to identify what lessons can be carried forward into similar arrangements.

Chapter Four: Methodology

4.1. Introduction

This section of the thesis examines the methodological approaches used in this study. The section begins with a discussion on the research design which was adopted and it describes the methods and tools used to collect data. It then offers a full description of the researcher's field work process, after which the data analysis approaches (which were employed) are laid down. The section then closes with an examination of the limitations of the study.

4.2. Research design

The study was qualitative in nature, because it relied on the perceptions of the individuals interviewed and their detailed descriptions (Ritchie & Lewis, 2003). Within this situation, a case study approach was utilised, in order to answer the *how* and *what* research questions (D. Gray, 2009; Yin, 2009) that the study aimed to explore. A case study approach was chosen, in order to gain an in-depth observation into the subject matter at hand. This approach is also a popular methodological technique amongst many researchers, who have examined vertical coordination arrangements, which include the involvement of smallholders (Catelo & Costales, 2008; Church, et al., 2008; Glover & Kusterer, 1990; Patrick, 2004; Porter & Phillips-Howard 1997). This method was also used in the analysis of the vertical coordination arrangements, in order to determine factors that contribute to their success (Arino & De La Torre, 1998; Doz, 1996).

Unlike a number of other studies, where two or more cases have been investigated, this study undertook a single case study. The justification for this decision is that the KASCOL model is a unique case within the Zambian sugar industry. This decision is also in support of Yin (2009), who stated that one of the rationales for a single case study is the fact that the "case represents an *extreme* case or a *unique* case" (p. 47).

Although findings from case studies are difficult to generalise out to a wider context (Kennedy, 1979; Yin, 2009), they are still very valuable, because they may result in some new theory which has high validity, due to its close association with the ‘empirical evidence,’ or the findings could merely contribute to an already existing theory (Eisenhardt & Graebner, 2007; Yin, 2009).

4.3. Data collection methods

The data collection methods used to answer the research questions in this study are now outlined.

4.3.1. In-depth interviews

The primary method used to collect data, in this study, was in-depth interviews with the concerned individuals (See Figures App-1.1 and App-1.2 in Appendix 1, for photographs of some of the interviews and Appendix 2 for the interview guide used). This tool was chosen because it provided an opportunity for a deeper understanding of the issues surrounding the subject at hand, from the participants’ own perspective (D. Gray, 2009; Ritchie & Lewis, 2003). It was also relevant in answering the research questions, which this study aimed to explore, in that, in order to gain a thorough understanding of the KASCOL model and how the participation of smallholders has changed overtime, it was necessary to facilitate face-to-face discussions with the parties to the model. In-depth interviews were also used in studies on the evolution of collaboration, by Arino and De La Torre (1998) and Doz (1996).

Twenty face-to-face interviews were conducted in Zambia, with representatives from each of the four parties to the model: that is, representatives of the ‘Kaleya Smallholders Trust’ (KAST); the ‘Kaleya Smallholders Company Ltd’ (KASCOL); the ‘Zambia Sugar Company’; and the smallholders. The interviewees were selected by the use of a purposive sampling technique, in order to ensure that representative participants from each of the relevant groups were interviewed (Ritchie & Lewis, 2003). Another technique, referred to as ‘snowballing’, was also utilised, in order to gain access to particular smallholders, without having to go through KASCOL management. This was arranged in order to protect

the privacy of the farmers interviewed. Table 4.1 shows the number of people interviewed from each category.

Table 4.1: Interview participants

Smallholders	KAST representatives	KASCOL management	Zambia Sugar Co. management
Original farmers 8	2	4	2
Successors 4			

Two original smallholders and one successor were interviewed from each of the four community groups, into which the smallholders are divided, bringing the total number of original smallholders interviewed to eight and the successors to four. In addition, two members from KAST, four from KASCOL management and two from the Zambia Sugar Company management, were amongst those interviewed. As observed, only a few participants were taken from each category, due to the homogeneity of each grouping (Ritchie & Lewis, 2003). The characteristics sought from amongst the smallholders were whether an individual was an original or successor smallholder. The original smallholders were able to give an account of how the KASCOL model had started and how they had seen it change, overtime. The decision to include successors in the study was made whilst in the field, because almost three quarters of the current smallholders were successors. The views of the successors were very helpful, when corroborating the views of the original smallholders, in regards to the changes in their participation. The interviews were digitally recorded.

In addition to the recorded interviews, field notes were also taken during visits to KASCOL. Field notes gave an opportunity for the researcher to write down what had been observed “outside the immediate context of the interview” (Ritchie & Lewis, 2003, p. 133). These notes were important, in order to make improvements to future interviews and also in the analysis of data.

4.3.2. Key informant interviews

The responses from the in-depth interviews were cross-checked with other key informants outside the stakeholders groups, to validate the data and also (as suggested by Yin, 2009) they helped to “provide insights into a [the] matter and...[to] initiate access to corroboratory or contrary sources of evidence” (p. 107). These key informants, who were interviewed, included government officials at national and district levels; a retired CDC employee, who happened to be amongst those responsible for setting up KASCOL; civil society; traditional leaders; ‘Mazabuka Cane Growers Trust’ representatives; and representatives of the ‘Mazabuka Cane Growers Association’. These interviews were also digitally recorded, except for the interview with the former CDC employee, where a list of questions was emailed to him and he (in turn) sent back a typed script of his responses.

4.3.3. Document search

Another type of data included in the study was secondary data and this was sourced through a document search of records from KASCOL, the Zambia Sugar Company, the Mazabuka Municipal Council and the Ministry of Agriculture and Cooperatives. This document search was helpful in validating the data obtained from the interviews (Yin, 2009).

4.4. My fieldwork process

A few weeks prior to going into the field, I attempted to create a contact with someone at KASCOL, who would be able to provide preliminary information about the model, in order that I could gain a clearer picture of the study area. I therefore phoned my colleagues in Zambia who connected me to a KASCOL employee, who was very helpful and he provided me with some of the information that I needed, prior to entering the field of research. However, approximately three weeks before I was to travel to Zambia, I lost contact with that KASCOL employee, who stopped responding to my emails. I had hoped that this contact would introduce me to KASCOL managers and farmers, thus helping with rapport building.

With still no response from my contact, I travelled without any idea how things were going to work out. On the second day after my arrival in Mazabuka District, and I visited my work colleagues, where I was given a contact number for another KASCOL employee, with whom I was able to get an appointment.

On the appointed day, I discovered that this contact was the person in charge of directly managing KASCOL's own cane fields. He introduced me to his boss, the Agricultural Manager, who had been in the position for only six months at KASCOL. He had only recently returned to Zambia from studying abroad and we were able to start an interesting discussion about our overseas experiences which helped in the creation of rapport between us. I explained to this manager the purpose of my visit and I requested that he ask people in KASCOL management (who had been working there for a long time and who had seen the company evolve) if they would be prepared to attend an interview with me. I also requested to visit and speak with some original smallholders. In addition, I indicated what other additional information I would need, in terms of KASCOL documents. The KASCOL manager explained that the company was involved in important meetings that week and he would phone me the following week.

In order to start my fieldwork, I discussed my research with a friend, who worked for the Zambia Sugar Co. As a result, I was able to contact someone from the Zambia Sugar Co. (also a former employee of KASCOL) but he wanted me to make official contact through the Zambia Sugar Co. Corporate Affairs Manager (CAM) and therefore I met with the CAM's secretary and after I introduced myself and given her a copy of the research information sheet (see Appendix 3), she stated that she would contact me, when she had made an appointment with the CAM, on my behalf.

In the meantime, as promised, the KASCOL agricultural manager set up an appointment and introduced me to the extension officer (EO), who had been with KASCOL since 1982 and who had worked in varying capacities with the smallholders. I was also introduced to the human resource officer, who had been with the company for over 12 years. I requested

to also get an interview with the agricultural manager (who had only been with the company for six months), in order to obtain his opinions on the operations at KASCOL.

The EO then introduced me to the 'Kaleya Smallholders Trust' (KAST) manager, since together they had a direct link and relationship with the smallholders. They took me on a tour and introduced me to some smallholder communities. This familiarisation tour enabled me to visit individual smallholders in their homes, at a later date. Since I was initially interested in interviewing two original smallholders, from each of the four community groups, I would simply arrive at one community and introduce myself to a smallholder at his/her house. Then, I would ask for the name of an original farmer in that area and (if he/she was home and was willing to be interviewed) I would conduct the interview, after the consent form had been signed (see Appendix 4).

Although my initial intent was to interview only original smallholders, I felt compelled to include some successors amongst my respondents, after discovering that almost three quarters of the current smallholders had succeeded their late parents in the running of the farms. As a result, I also interviewed four successors, one from each of the four community groups. This brought the total number of smallholders interviewed to 14, with two being interviewed in their capacity as smallholder representatives (KAST executive members).

Two weeks into my fieldwork, I met my original KASCOL contact. He gave me a comprehensive tour of the KASCOL project area and during this time I took photographs of the area. However, I could not photograph smallholders working in their cane fields, because their dwelling areas were far away from the cane fields and they started cane field tasks very early in the morning. I also interviewed this KASCOL contact, bringing the total number of KASCOL management interviews to four.

Over two weeks, I completed the KASCOL interviews and I also had the opportunity to meet with some government officials and other key informants. The Zambia Sugar Co. CAM contacted to say he was still tied up. Finally, through a friend, I was able to make appointments with the Zambia Sugar Co. agricultural manager and his colleague, the

agricultural business development manager, who both worked closely with the Zambia Sugar Co. out-growers: of which KASCOL is one. Although these two managers were not employed when KASCOL was formed, they were at least able to offer some valuable insights, which were of help to this study. With a promise of sending back copies of this report to the two organisations (the Zambia Sugar Co. and KASCOL) and remaining in touch, in case some clarification was needed, I returned to New Zealand to begin the analysis of my data.

In order to conform to ethical issues, all participants were given an information sheet in order that they could gain an understanding of the purpose of the study; how the data collected would be managed; and their rights as participants, if they were to accept the invitation to participate. Once they agreed to participate, they were given a consent form to sign and the interview would begin. All interviews averaged one hour and were digitally recorded. No individual respondent resisted being recorded. For all interviews with the smallholders, I was accompanied by a translator¹, who was conversant in both English and the local language, to assist with communication. This translator signed a confidentiality form (see Appendix 5) agreeing not disclose to anyone the information he had gained, through translating during the interviews.

4.5. Data analysis

The data collected in this study were qualitative, and so analysis followed qualitative data analysis techniques. The recorded interviews were first transcribed and (in order to make sense of all the information collected) a combination of methods for analysing qualitative data were used, as advised by Langley (1999). Firstly, the data were manually categorised, under themes influenced partly by the literature and also by the terms the interviewees used during the interviews (Ritchie & Lewis, 2003). This process was helpful in reducing the data to only that which was deemed usable. The process also proved significant in offering

¹ Regrettably, my translator was murdered five months after my fieldwork (in circumstances not related to this study).

a preliminary understanding of the KASCOL model and its important elements. From there, the process of analysis made use of the narrative and visual mapping strategies. The visual mapping strategy was especially significant, in diagrammatically depicting the process, which the KASCOL model had undergone and the changes that had taken place (Langley, 1999; Pozzebon & Pinsonneault, 2001). On the other hand, the narrative strategy, or what other authors such as Ritchie and Lewis (2003) refer to as ‘descriptive accounts’, was used to offer a description of the sequence of events (Pentland, 1999): a process which was made easier with the visual mapping strategy and the categories and themes thus derived. Finally, what Ritchie and Lewis (2003) call ‘explanatory accounts’ were used, in order to identify patterns in the refined data and further identify what shaped these patterns, as also supported by Pettigrew (1997), thereby facilitating the identification of the reasons underpinning the success of the model. However, as indicated by Ritchie and Lewis (2003), the process of analysing qualitative data is not a ‘straight’ one: it is iterative. Therefore, the researcher went back and forth on all the above mentioned stages of analysis, in order to refine the categories and themes and check for other meanings and explanations, which may have been previously missed.

4.6. Limitations

However, in the study, certain limitations were observed. The following were amongst the limitations identified:

4.6.1. Methodological problems

In order to very accurately study the changes that occur overtime, a longitudinal method would be appropriate, in order to observe the unfolding of events (Ring & Van de Ven, 1994; Van de Ven & Poole, 1990). However, this study had to rely on the participants’ memory, in order to track the evolution of the KASCOL model and how the participation of the smallholders had changed overtime. Therefore, the accuracy of the data collected might be flawed. In addition, the inability of the researcher to contact some of the originators of this project, in terms of the initial management and those who were involved as the organisation was starting, may have resulted in some pertinent issues being missed.

Fortunately, one of the key people from CDC, who was tasked with the responsibility of getting the project started, in terms of planning and the setting up of infrastructure, sourcing equipment and co-ordinating the organisation of the project, was successfully contacted, during the middle of the study.

Another methodological limitation relates to the use of a translator during some of the farmer interviews, which may have resulted in some important information being missed out, in cases where the translator may have failed to make an accurate interpretation of a particular statement made by a participant.

4.6.2. Access to data

It was difficult to access some data and information that were necessary for this study, in order to produce accurate results. This is especially true for the secondary data. The availability of formal documentation on the Zambian sugar industry (and previous studies on KASCOL) is very limited in Zambia. This proved to be a serious drawback, since these types of data would have been important for validating data from the interviews.

4.6.3. Reliability of the data collected

The risk of some participants having held back important information, or even perverting the truth, for fear of repercussions and other reasons, is acknowledged. This was particularly evidenced by one of the smallholder participants, who declined to answer some questions, because of some previous experience he had with other researchers. Even after assuring him of confidentiality, the participant was not willing to say a great deal. However, this limitation is not very important to this study, since a number of participants were interviewed and other data sources were used to validate the interviews (Yin, 2009). Furthermore, a case description of the model was sent back to the key informants, for them to check the details that had been recorded. In addition, the reliability of data sources, particularly from KASCOL management, was improved by the conducting of interviews with participants from different levels of management: that is, both the upper and lower levels (Eisenhardt & Graebner, 2007).

4.7. Summary

In this chapter, the methodological approaches employed in the study were presented. The chapter revealed that the study at hand was qualitative in nature, taking on a case study approach. The primary method used to collect data in this study was in-depth interviews with representatives from each of the four parties (KAST, KASCOL, the Zambia Sugar Company and the smallholders) to the model. The sampling techniques used were purposive and snowballing sampling. To validate the data from the interviews, interviews were also conducted with some key informants outside the four main stakeholder groups already mentioned. In addition, a document search of company and government records was also conducted. All interviews were recorded digitally. The data were analysed using qualitative data analysis techniques. The chapter also revealed that methodological problems, problems with access to data, and reliability of the data collected, were the main limitations identified in this study.

Chapter Five: Results

5.1. Introduction

This chapter presents the findings from the study, as obtained through the interviews and a document search of company records. Firstly, the KASCOL model, as it was in the initial phases of its formation, is presented. Thereafter, the important changes, which have occurred overtime, are pointed out. Finally, the chapter presents propositions, as to the reasons underpinning the success of this model. (See Appendix 6 for a summary of the KASCOL model facts).

5.2. The KASCOL model

5.2.1. The model: initial circumstances

KASCOL is a company set up through the initiative of the Government of the Republic of Zambia (GRZ) and other stakeholders, in 1980. This initiative had two objectives: One was to increase sugarcane production, in order to meet the Zambia Sugar Company's (the sole sugar milling company in the country at that time) expanded processing plant capacity in Mazabuka District: and the other objective was to improve the incomes of poor, ordinary Zambians, by involving them in the sugar industry. In order to achieve these objectives, a unique model had to be developed that could solve the following challenges: the need for having land close to the mill and a source of irrigation water; identifying a source/s of funding for the development of infrastructure; management and technical expertise; and working with smallholder farmers, without any prior experience in sugarcane production.

5.2.2. The model: organisation

The 'Commonwealth Development Corporation' (CDC) was asked to develop an organisational model, based on its experience with similar projects in Africa, in particular, the 'Vuvulane Irrigation Scheme of Swaziland' and the 'Dwangwa Scheme of Malawi'. CDC was keen to step in because it was, at that time, seeking investment opportunities, in

order to contribute to the development of the economy of Zambia and to improve the livelihoods of the Zambian people. CDC suggested a model that saw the creation of a sugarcane production and farming services company (KASCOL) which would: (1) own the 4,179 hectares of land given by the Zambian government for the development of this project; (2) lease part of the 2,500 hectares of arable land to smallholders, for the production of sugarcane; (3) plant its own sugarcane on the remaining area, to cover its overhead costs; (4) provide agricultural services and advice to the smallholders; and (5) facilitate relationships between the smallholders and the Zambia Sugar Co. which would provide the irrigation and buy the sugarcane.

5.2.3. The model: ownership

The initial shareholders of KASCOL were CDC and two commercial banks (which provided loans for financing the infrastructure and equipment) and the Zambia Sugar Co. that provided irrigation water from the Kafue River, through its bulk water supply system. These four organisations each had a 25% stake in the company. In addition, CDC (because of its previous experience with similar projects) provided the initial management of the project.

5.2.4. The model: smallholders

It was not until 1984, after everything had been set up and the cane fields had been planted, that smallholders were integrated to the model. The conditions for a smallholder's eligibility were that s/he was a healthy individual with a reasonable family size (about eight in total). However, since the concept of this project was new to the local people, the public invitation for Zambians to join the project as smallholders was not easily taken up, as one of the initial managers from CDC explains:

“The Kaleya Smallholder settlement [KASCOL model] was a new unproven concept that people needed to see working before they took the major step of uprooting themselves and their families. Sugarcane as a commercial crop, and its organisation to supply the sugar factory, were both new to most people and certainly very different to the usual Zambian farming experience.”

His sentiments are supported by one of the original smallholders who states:

“My father and others did not want me to come here [to KASCOL] because they thought sugarcane was not a good crop for me. As Tongas [Local tribe of Mazabuka District] we are used to maize: you grow it and then store some for your food.”

Consequently, only eight smallholders joined the project. These eight volunteers were also KASCOL employees, who decided to resign and take up sugarcane farms because they trusted the system. These first eight smallholders were subjected to a selection process, set up in January 1984 and comprised of a district agricultural officer, representatives from the Zambia Sugar Co. and KASCOL, four district chiefs and the district governor, as chairperson of the group. These first smallholders had prior experience in sugarcane farming hence no training was necessary; each was immediately given a four Ha cane field, plus ½ Ha plots, to build his/her house on and grow subsistence crops (See App-1.2 and App-1.3 in Appendix 1 for photos of some smallholders with some of their other crops).

However, the following year, interest in the project grew, as these eight smallholders received their incomes. KASCOL re-advertised and a reasonable number of people applied, with all applicants passing through the selection committee and undergoing six months training in cane husbandry, before being integrated. As a result, the number of smallholders continued to grow over a period of 10 years, until the project closed up entry in 1994, with a total of 160 smallholders.

5.2.5. The model: division of work

The smallholders assumed the responsibility of activities, such as ridging, smut rouging, weeding and irrigating their cane fields. KASCOL was responsible for cane-harvesting; chemical application; supervising the farmers' field activities; replanting the cane; water management; providing the technical, financial, and managerial skills; grading community

roads; and providing other social amenities, such as domestic water and recreational facilities.

5.2.6. The model: governance

The composition of the KASCOL board, contracts and the farmers' association, were the three major areas, which were considered under the model's governance and these are now described.

KASCOL Board

The initial board of directors of KASCOL consisted of representatives of CDC, the Zambia Sugar Co. and the two shareholder banks. In addition, the Zambian government appointed a high ranking official from the Ministry of Agriculture, who had a strong inclination to serve the interest of the smallholders, to sit on the KASCOL board.

Contracts

The Zambia Sugar Co. and KASCOL signed a renewable three years sugarcane supply and irrigation contract. Under this contract, KASCOL would only supply its cane to the Zambia Sugar Co. and in turn it would receive irrigation water. On the other hand, KASCOL and the smallholders signed an agreement in which smallholders would lease land from KASCOL, for a renewable 14 year period. The contract bound the smallholders to grow cane according to the stipulated agronomic practices and also allowed them to receive agronomic services and irrigation water from KASCOL. The contract was explicit about the duties of KASCOL and the farmers and what action would be taken, in the event that a smallholder breached any of the terms of the contract.

Farmer association

In 1985, the smallholders formed an association, 'Kaleya Smallholder Farmers Association' (KASFA), thus responding to advice from KASCOL, since this had been in the plan of the model developers.

“It was always envisaged that there would be some form of farmer representative group to liaise with Kaleya [KASCOL] management,” explains the former CDC official and former KASCOL manager.

The first farmers’ association was mostly composed of the first eight smallholders. The primary role of this association was to represent the smallholders in negotiations with KASCOL. KASFA became a registered entity and it had a constitution by which it was governed. The chairperson of the farmers’ association also attended KASCOL board meetings.

5.3. Changes overtime

Significant changes occurred over time, in terms of ownership, governance, management and the participation of smallholders.

5.3.1. Ownership

The first change involved ownership of KASCOL. In 2005, after KASCOL had fully repaid all its initial loans, CDC and one of the banks sold their shares in KASCOL, which were then offered publicly. The shares were purchased by a variety of people, including the smallholders and KASCOL employees, through two separate consortiums.

The Zambia Sugar Co., on the other hand, donated its shares to the ‘Mazabuka Cane Growers Trust’ (MCGT), a trust it had created to support the sugarcane growers in the district. The new board of directors was integrated with representatives of the remaining bank, the two shareholding consortiums and the MCGT. The MCGT had two trustees, one from the Zambia Sugar Co., and the other a KASCOL smallholder.

5.3.2. Governance

The second change concerned the transformation of the farmers’ association. In 2006, the farmers’ association was transformed into a trust (Kaleya Smallholder Trust, KAST), which

allowed the smallholders to acquire shares in KASCOL through the two consortiums and hence gain representation on the board.

In order to help with the financial management of the trust, KAST executives employed an accountant; in 2009 this position was upgraded to that of a finance and project manager. This position was created so that the executive members could dedicate more of their time to their primary responsibility of farming.

After the transformation, the trust was granted a cane-cutting contract by KASCOL (see Figure App-1.4, Appendix 1). This contract, together with the ZMK500,000² annual subscription fee that each smallholder had to pay, became one of the many sources of income for KAST. With this income, KAST was able to acquire a light truck, which it hired out to its members and a tractor that was used to plough its members' crop fields, at a fee. With some of its income, KAST was also able to assist smallholders with short loans which were recovered after the harvesting of the cane.

Furthermore, the smallholders (through their representatives) were able to become affiliated to 'Fair Trade' by 2006/2007. According to the participants, the attachment to Fair Trade allowed the smallholders to earn extra income by selling the equivalent amount of sugar produced from their cane, at a premium price on the Fair Trade market in Europe. The amount earned was about US\$60/tonne of sugar sold and this was disbursed at varying intervals, sometimes after four or six months. The smallholders were able to form a committee that was specifically tasked to manage the money coming in through Fair Trade. This committee, with advice from other smallholders, the KASCOL management and the KASCOL Board, used the money to improve the social conditions of the smallholders.

"In fact I am happy because I was the first committee member in the Fair Trade committee. And we bought a lot of things; we renovated the Kaleya East basic school; we

² USD1 is equivalent to ZMK4,720
(<http://www.xe.com/ucc/convert.cgi?Amount=1&From=USD&To=ZMK&image.x=44&image.y=10>, 2011)

renovated the filtration plant; we bought an ambulance, and a lot more,” states a KAST committee member.

Thus, KAST’s responsibilities broadened, from looking after the social welfare of its members, to being shareholders in KASCOL and running several business entities. It is in this regard that the smallholders, through the advice of their lawyers and other stakeholders, increased the terms of office for the executives, from two to three years, in 2009. The reason behind this decision was that two years was not considered adequate enough time to carry out any meaningful developmental projects, as explained by one KAST committee member:

“When we had our last AGM [Annual General Meeting] last year [2009], we were advised by our auditors and the lawyers that it is not good for an executive to hold office for a term of only two years. Because it is like there will not be any development. ‘The first year that you will be in office, it is like you will be learning. The second year when you want to start coming up with developmental issues, is the same year in which you hold the AGM, so this will mean not having any development at all. So why can you not add up to three years?’”

5.3.3. Management

The third change involved KASCOL management. Amongst the management changes, CDC, which was a foreign development agency, stepped down from its management role in the late 1980s and turned it over to Zambian nationals. Another change was the restructuring of KASCOL in 1998/1999, as a result of the financial burden of servicing its loans and having to provide services to the settled 160 smallholders. Consequently, a number of KASCOL employees were declared redundant and KASCOL sold off cane haulage and land preparation and started to out-source those activities: they also down-sized their workshop facilities.

5.3.4. Smallholder participation

The last major change concerned the participation of the smallholders. This section shows the areas in which the smallholders exhibited growth.

Increase in smallholder land sizes

In 2001, as a result of lobbying by the farmers' association, the smallholders had their individual cane production areas increased from four hectares to up to 7.5 Ha. One smallholder states:

“The four Ha was too small, and the money we were getting from there was very little. So we asked for more hectares so that we could have more money.”

This increase implied a reduction in the size of KASCOL's own plantation, thus bringing the cane land ratio between KASCOL's own estate and the smallholders' to almost fifty-fifty.

Increase in smallholder pay-out

Initially, smallholders were being paid 100% of their incomes, minus all incurred costs. However, this system did not appear to work successfully, since some poor performing smallholders, with low cane yields, would end up with very little income after the deduction of the costs incurred. As a result, KASCOL management introduced the system of income sharing ratios in 1993. This system allowed KASCOL management to retain 60% of a smallholder's income, which would cover the costs of land preparation, cane planting and replanting, cane-cutting and haulage, extension services and other management activities. The smallholder would only pay the cost of variable inputs, such as fertilisers and other chemicals, from their share of 40%. In this system, even low performing smallholders were able to have a decent income. In 2003, the income sharing ratio was negotiated to 43% for smallholders and 57% for KASCOL management. These figures were further altered in 2010, with smallholders receiving 45% of the income, and the remainder went to KASCOL management upon the recommendation of an external consultant, who was hired when an agreement could not be reached between the two parties. However, according to one participant from KASCOL management, the fact that the smallholders were taking on more responsibilities and roles previously undertaken by KASCOL management, facilitated changes in the smallholders' pay-out.

Increase in smallholder responsibilities

Over time, the smallholders had indeed taken up more responsibilities in managing their cane fields, such as chemical application and (through their farmers' group) they were also taking up roles in community welfare, which were previously the responsibility of KASCOL management.

Inclusion in KASCOL ownership structure

Furthermore, the transformation of the farmers' association into a business entity had broadened the smallholders' participation, thus facilitating their inclusion into the ownership structure of KASCOL. This meant that the smallholders had 'one of their very own' as a director on the KASCOL board, which gave them a voice in decisions made at KASCOL.

5.4. Reasons for the success of the KASCOL model

The KASCOL model is considered to be a success, based on evidence that shows it was able, not only to remain sustainable (because it had lasted 30 years) but most importantly, it increased the smallholders' participation over time. Four orders of factors played a role in the sustainability of the KASCOL model and the successful integration of smallholders therein: (1) the context that created an enabling economic and social environment; (2) the governance structure that allowed a balance in the power relationships; (3) the managerial skills, which were instrumental for operational efficiencies at all levels; and (4) the growth of social capital expressed in terms of relationships, communication and trust.

The major drivers for this initiative were: (1) Increase in mill throughput by the Zambia Sugar Company and (2) the Zambian government's intent to encourage ordinary Zambians to get involved in the sugar industry. This, together with the presence of CDC, with their experience and desire to bring about development, created the initial conditions that encouraged the required commitment from the stakeholders to remain in the arrangement and make it work. One former CDC official, who had a leading role in the early stages of KASCOL, had this to say:

“CDC had an office in Lusaka [Zambia] which was charged with seeking investments to contribute to the development of the Zambian economy. As a development organisation, CDC was also keen to build on the success of its smallholder settlement schemes in Swaziland and Malawi and to provide opportunities for Zambian farmers to join the project and improve their livelihoods.”

Proposition 1: The converging interests of the major partners and initiators have a positive effect on the sustainability of initiatives aimed at integrating smallholders in modern agri-food chains.

The goal of the Zambia Sugar Co. to increase its throughput would not have been a reality had it not increased its factory capacity. Therefore, the sugar industry (in general) and the Zambia Sugar Co. (in particular) was considered to be growing and expanding, thus making room for the participation of stakeholders. This was further supported by one of the managers at the Zambia Sugar Co., who pointed out that the Zambia Sugar Co. embarked on a factory upgrade in 2007, in order to be able to raise their sugar output, from 1.8 tonnes to the present 3.3 tonnes per annum, with plans to increase it further and as a result of this success, they were looking at how production at KASCOL could be expanded in the future. This model of integration may have had a different outcome, in the context of an unsustainable sugar industry and/or a struggling focal company.

Proposition 2: Smallholders will not be successfully integrated into vertical coordination arrangements if the industry and/or the focal company in the chain are struggling.

The initial ownership structure of KASCOL and the individual interests of the owners were aligned with the long term interests of integrating smallholders within the ownership structure. This was observed from a comment by the former CDC official, speaking on behalf of CDC:

“CDC’s normal modus operandi was to provide initial funding and then to recover its loans and capital once a company was on a firm footing. The money recovered would then become available for CDC to invest in other projects elsewhere.”

This meant that some of the initial shareholders knew they were going to give up their shares in the future and thus make room for the smallholders’ involvement. This was also alluded to by one Zambia Sugar Co. manager, who said that the ownership of shares in KASCOL was not a core part of the Zambia Sugar Co. (as a company) and therefore, they were able to ‘let go’ of their shares in the company.

The long term plan to include smallholders in the ownership structure of KASCOL is further pointed out by the former CDC official, who had worked in the setting up of the KASCOL project:

“It was always envisaged that the settlers [smallholders] could become shareholders in the company and thus associate their own future success with that of their company.”

These interests were communicated to the smallholders and as one of them points out:

“...that time [at the inception of KASCOL] it was agreed that when CDC goes, their 25% shares were supposed to be handed over to us [smallholders]...”

These interests were maintained, as the ownership structure changed overtime, as observed from the fact that the smallholders *did* become shareholders in KASCOL.

Obvious as it may seem, it is unlikely that an ownership structure, without a genuine interest to include and maintain small farmers, would actually do so.

Proposition 3: The effective integration of smallholders requires a long term interest (political, economic or otherwise) on the part of the controlling stakeholders or senior partners.

The assets involved in sugarcane production and processing are specific to the industry (Sartorius & Kirsten, 2005). In the case of the KASCOL model, it is not only the issue of high asset specificity in the sugar industry that may have kept the parties working together, but the parties involved were also very dependent on each other. The Zambia Sugar Co. expanded its factory capacity, which could not be satisfied by the sugarcane it produced on its plantation and therefore it had to outsource. On the other hand, KASCOL, as a company, was dependent on the Zambia Sugar Co. for irrigation water and the smallholders were dependent on KASCOL, for land to grow their cane (land was provided by the Zambian government and KASCOL took ownership of it). Therefore, aside the fact that the parties, in particular, the Zambia Sugar Co. and KASCOL had made high asset specific investments, they were also dependent on each other to operate, as desired by all parties.

Proposition 4: Asset specificity and interdependency create an environment conducive to building and managing long-term relationships.

Initially the smallholders depended very much on government influence to have their demands met. One smallholder, a former chairperson for the farmers' association, remembers:

“What I used to do was, I would write them [KASCOL management] a letter and say ‘Management, I am coming with my committee at 14hrs.’ We would go there, and discuss a particular point. If we did not agree, then I would push it to the Board, where we would settle the matter. If at the Board we agreed, and then the manager here decided to go contrary... I would simply call the governor, ‘Governor, can you please come, there is a problem here. This person is not wanted by farmers so let him pack and go!’ That is what I used to do, and he would go straightaway.”

The evidence given shows that, even though the smallholders were in an environment where they were disadvantaged (in terms of power), since they did not own any production assets in the arrangement, they still had an advocate in the form of the Zambian government. The Zambian government appeared to exhibit a greater power over all the other stakeholders, since it was possible for them to intervene on behalf of the smallholders.

Proposition 5: An environment where one of the senior stakeholders (one who is more interested in improving the livelihoods of the smallholders) has greater power over the other stakeholders facilitates for the inclusion of the smallholders.

Over time, the parties involved began to communicate and resolve their differences with little involvement from outsiders. The level and quality of communication and mutual trust increased with time, which in turn increased social capital. As relationships improved, the parties learned how to manage their conflicts and bring about acceptable changes. When required, they would bring their differences to conflict resolution committees integrated by their own member representatives. In cases where all these avenues failed, external mediation would be sought but, according to one manager from the Zambia Sugar Co., KASCOL and the Zambia Sugar Co had never had any need for such a move, because they always managed to resolve their differences between the two of them. The situation was similar in the relationship between KASCOL management and the smallholders and this is pointed out by the KAST chairperson:

“We call meetings [when we have issues we want to raise]. I can propose a meeting to management [KASCOL management], and management will listen because I am the representative of the smallholders. So once that meeting is organised, we sit down and share those ideas with management. If we feel that issue requires the involvement of the Directors, the Board itself, then the matter goes to the board...Then from the Board if we feel it still cannot be resolved, we involve external consultants...However, we do not have a permanent external mediator because we do not expect to have permanent problems, so we would not want to have a permanent person sitting in that capacity.”

Over time, the smallholders have managed to bring to the attention of KASCOL management proposals for an increase in their farm sizes and pay-outs — with positive results. Furthermore, the smallholders were able to receive information from KASCOL management concerning the sale of shares from CDC and one of the banks and in addition they were able to get advice relating to the transformation of their association into a trust, in order that they could participate in the buying of the shares.

“...we were advised by KASCOL’s business consultants that if you want to participate in buying shares, you cannot do that as an association, you have to form a trust. So that is how we opted to come up with a trust,” states the KAST chairperson, when questioned on the reasons behind transforming the association into a trust.

Proposition 6: As relationships endure, the parties learn how to respond to mutual demands, to manage conflicts and to bring about acceptable changes.

This model provided efficient governance – the board of KASCOL, farmers’ representation and contracts — in order to regulate transactions at various levels, which allowed for interdependency and a balanced power between the parties. The signing of contracts contributed to the sustainability of the model, since the penalties and costs of breaching the contracts were severe. For KASCOL, it would mean not receiving irrigation water from the Zambia Sugar Co. and for the smallholders it could be eviction by KASCOL from the leased land. One smallholder puts it this way:

“We signed; there are rules and conditions there. So when you pull out you have to leave Kaleya [KASCOL project area], and this property belongs to Kaleya [KASCOL]. Yes, and [KASCOL] management is making sure that they follow what we signed between them and ourselves. They do not make mistakes there.”

This can be evidenced from the fact that KASCOL records show that, over the years, only two smallholders have been evicted from the project area, for breach of their contracts.

The presence of the farmers' association, on the other hand, much as it helped in reducing the transaction costs of KASCOL management dealing with smallholders, it also helped balance the power between KASCOL management and smallholders, thus increasing the smallholders' bargaining power, as seen from their successful demand for increased farm sizes and pay-outs. In addition, the presence of a government official on the board helped to serve the interests of the smallholders, because the government's primary intent in this model was to improve the livelihoods of the smallholders. Furthermore, the pooling of the smallholders' shares in KASCOL, through the two separate consortiums, unified the smallholders' voice amongst them and with the other group shareholders: that is, the Zambian businessmen and the KASCOL employees. This created an environment in which the parties could continue working together and respond to mutual demands.

Proposition 7: Efficient governance, by creating an environment conducive to mutual responsiveness and adaptation, has a positive effect on smallholders' integration.

Managerial competence was a large factor in the success of this model. Evidence of supervision, coordination and learning to bring about efficiency and equity, is present in the evolution of the model. From a supervision and coordination point of view, the distribution of roles and responsibilities between the parties proved to be operationally efficient. The smallholders had all their necessary inputs delivered on time: and their cane fields were harvested according to the designed schedule, such that no smallholder incurred any loss due to delays. One smallholder elaborates on the cane-cutting programme:

"...every year, the company [KASCOL] has a harvesting programme for each field...My field for this year [2010] will be harvested in September. So it is a program put together by the company [KASCOL]. Whether I am in the project area or not, they just wait for that time to come."

Another smallholder also expresses similar comments and also his satisfaction, in the following way:

“... on cane there is no loss: water is ever there; fertiliser is ever there. There is nothing like, ‘This year where are we going to get fertiliser?’ No, it is a must. Then again, transport is a must, cane cutters are a must. Now, even if they give you ZMK40,000,000 every year, it is like you are just given that money free of charge, because if you add labour, irrigation and weeding, it is only about ZMK2,000,000. So the whole ZMK38,000,000 is yours as your profit. Now if you were settled at Mwanachingwala there on a 7Ha land, growing maize, you cannot get ZMK40,000,000, never! So in short, we are well up!”

Furthermore, the smallholders received technical support through KASCOL management’s extension service.

“Most of the duties in the field are now being done by me the farmer, only that there is the extension officer who goes around to supervise my activities so that I do what needs to be done at the right time” states yet another smallholder.

The efficient agricultural services that the smallholders received were evident in the results obtained. Although the smallholders cultivated a total of 1,067 Ha, against KASCOL’s 1,100 Ha, the records show that they usually contributed a higher amount of sugarcane supplied to the Zambia Sugar Co., than that from KASCOL’s own plantation (see Table 5.1). However, the smallholders’ cane yields were low in 2009 due to two main reasons which the system hopes to rectify in the future. These reasons were explained by the Zambia Sugar Co. agricultural manager:

“In 2008/2009, there were major power disruptions in Zambia, with a lot of load-shedding. So for many days on end during peak growth periods, there was the inability to irrigate, which I think caused a problem in terms of yield reduction. And then the average age of the cane was also a significant contributor to those lower yields.”

Table 5.1: KASCOL sugarcane yields

Year	KASCOL own cane (nucleus estate)	Smallholders
2005	128,383.24	131,514.10
2006	121,924.94	123,189.68
2007	116,342.38	123,995.44
2008	97,173.28	117,863.74
2009	107,148.56	101,116.78

Source: KASCOL records (2010)

Note: In 2008, there was a stand-over (fallowed land) on some of the nucleus estate land

Similarly, an aspect of learning is observed in that overtime, KASCOL management changed the way it conducted business with smallholders, thus ushering in better ways that could bring about more efficiency and satisfaction. For instance, the smallholders were initially being paid a lump-sum on their returns, but later KASCOL management started staggering their payments over a period of 12 months, to help the smallholders better manage their money. KASCOL management had tried this approach a couple of times before with little success, and so they had abandoned it. One smallholder reports concerning the same issue:

“Well, we did try it, madam. It is not a strange thing to me, or to us. We did try it but it was a disappointment.”

Later, in 2010, however, the system was reintroduced at the insistence of the KASCOL board and some smallholders.

“Since we have problems of school-going children, I think it is a good system. It helps smallholders in meeting such kinds of demands. It is also good because it prevents us from borrowing money from people where we end up repaying with huge interests,” states one smallholder, who supports the system.

However, this time around, KASCOL management decided to make it available only to those smallholders who were willing to receive the staggered payments, instead of making it compulsory, as in the previous times. Consequently, at the time of data collection for this study, some smallholders were found signing renewable one year monthly payment contracts.

Another learning point was the introduction of income sharing ratios, when paying the smallholders, thus allowing KASCOL management to retain a portion of their income. In this way, the smallholders were guaranteed some minimum amount of income, in order to meet their needs.

In addition, over time, KASCOL management started to relinquish some of its previous roles and allowed the smallholders to take on more responsibilities, in order to develop their capacity within the project. This is expressed by one participant from KASCOL management:

“... originally there were some things that people thought were too big to be done by farmers [smallholders], especially those that require heavy implements and machinery. Some of these they are supposed to be slowly taking them over. I do not think there are a lot that they have not taken over.”

Proposition 8: Skilful management, through supervision, coordination and learning, improves performance, thus contributing to sustainability and the inclusion of smallholders.

After approximately 22 years of being involved in the KASCOL model, the smallholders significantly started to increase their ownership and governance role within KASCOL and this was facilitated through the willingness of all stakeholders to see this occur and a trust that they could handle the responsibility — as one participant from KASCOL management states:

“We are trying to encourage them [smallholders] to do things on their own because there are total benefits there. Because the whole aim of Kaleya [KASCOL] is to give at least two thirds of the land to smallholders, so that Kaleya [KASCOL] becomes just their property.”

These comments were also expressed by the manager from the Zambia Sugar Co.:

“Well, I think we would like to see those KASCOL smallholders grow their area from 6 to 10 Ha. I think that is an important aspect we have got to look at going forward, is to give smallholders bigger land.”

Proposition 9: In an environment of social capital growth, smallholders will increase their participation.

5.5. Summary

In this chapter, the findings of the study were presented. The initial set-up of the model was described, in terms of the initial conditions surrounding its formation; its organisation; the ownership structure; the involvement of smallholders; the division of work; and governance. From there, the changes identified in the model were in the ownership structure of KASCOL; its governance, the KASCOL management; and the participation of the smallholders. This chapter has revealed that the KASCOL model was considered successful, not only because it was sustainable, since it had lasted 30 years, but more especially because it had managed to increase the smallholders’ participation overtime, as observed from the fact that there was an increase in their farm sizes, pay-outs and responsibilities and their inclusion in the ownership structure of KASCOL. The chapter concluded with propositions for the reasons underpinning the success of this model, and the areas covered by these propositions include: the context in which the model was developed; the model’s governance structure; managerial skills, in terms of supervision, coordination and learning; and finally, social capital growth. However, as seen in Proposition 9, growth in the smallholders’ participation over time was related more to the growth of social capital amongst the parties involved in the arrangement, which eventually made room for the smallholders to expand their role.

Chapter Six: Discussion

6.1. Introduction

This chapter provides a discussion on the findings presented in the previous chapter. It begins with a discussion on the definition for success, which is used in the study. It then points out how the KASCOL model differs, in terms of some of the conditions given in literature, on the best ways to integrate smallholders in vertical coordination arrangements. From there, the chapter provides a discussion on the factors that have contributed to the sustainability of the model and the successful integration of smallholders.

6.2. Definition of success

The study used two main indicators for success: (1) sustainability, in terms of the longevity of the model; and (2) the increase in smallholders' participation. The second success indicator was considered important in this study, due to the fact that other studies and literature have shown that there are problems in smallholders being involved in vertical coordination arrangements (Baumann, 2000; Glover & Kusterer, 1990; Kherallah & Kirsten, 2002; Patrick, 2004; Porter & Phillips-Howard 1997; Sartorius & Kirsten, 2007; Singh, 2002a; Sriboonchitta & Wiboonpongse, 2005; Warning & Key, 2002) .

Previous studies on unsuccessful experiences of smallholders integration have concluded with statements such as, 'smallholders tend to be relegated to the role of mere labourers because of the power imbalance between them and the firm' (Little & Watts, 1994); 'the firm assumes all decision-making roles with the smallholders being at the receiving end without any say in what happens' (Glover & Kusterer, 1990); and 'there is little evidence to show that the equity of smallholders increases as they get into such kinds of arrangements' (Watts et al., 1988, as cited in Porter & Phillips-Howard, 1997). Contrary to such studies, in the KASCOL experience, the smallholders were able to increase their participation, to the point of owning shares in KASCOL.

6.3. Differences in the KASCOL model

The literature suggests certain conditions, which are favourable to the successful inclusion of smallholders into vertical coordination arrangements. However, it was found that the KASCOL model fell short on some of the main ones offered, which are: the availability of alternative markets; the availability of alternative sources of income; previous experience with multinational corporations on the part of the smallholders; ownership of production assets; and the type of commodity cultivated. These will now be discussed.

6.3.1. Alternative markets

The model under investigation operated in a *monopsonic* environment, where the Zambia Sugar Co. was the only buyer available for the sugarcane produced in the Mazabuka district. Although this condition tends to benefit the buyer of the produce, in that it prevents the seller from defaulting on their supply contract (Glover & Kusterer, 1990; Singh, 2002b), it is said to be detrimental to the bargaining power of the smallholders involved in the arrangement, because they tend to have little say in the quoted price and thereby their satisfaction is likely to be affected. This was actually a source of disputes between the smallholders and KASCOL because, when the smallholders were not happy with the price quoted to them, they automatically blamed their agent, KASCOL, whilst KASCOL pushed the blame onto the Zambia Sugar Co. As a result, a small hint of mistrust was evident, since some smallholders spoken to felt that sometimes KASCOL did not give them a good deal on their cane or that KASCOL would change the quoted price in the course of the year and then blame it on the Zambia Sugar Co. However, KASCOL did express the predicament of it being a price-taker, since the Zambia Sugar Co. was indeed the only buyer of their cane in the district. Therefore, in order to resolve this problem, researchers recommend the availability of alternative markets for smallholders, so that they are able to hold an increased bargaining power (Sriboonchitta & Wiboonpongse, 2005; Warning & Key, 2002).

6.3.2. Alternative sources of income

Another area of deviation for the KASCOL model was that the smallholders basically depended on the production of sugarcane for their income. Upon joining the project, the smallholders were each given an additional ½ Ha plot, upon which to build their houses and to grow some subsistence crops. The smallholders expressed the fact that this land was not adequate for them to engage in meaningful agricultural activities, although one smallholder spoken to had a large garden of vegetables, from which he was able to supplement his sugarcane income (See Figure App-1.2 in Appendix 1). However, it is encouraging that a number of the smallholders interviewed had begun to invest their sugarcane incomes outside of the project and into real estate and farms: and some of them had formed groups in which they were engaging in other business activities (See Figure App-1.5 in Appendix 1 for a photograph of such activities). Nevertheless, sugarcane was their primary source of survival, a situation which could put them in a poor bargaining position, as indicated by some researchers (Glover & Kusterer, 1990; Porter & Phillips-Howard 1997).

6.3.3. Previous experience

Again, contrary to the suggestions by Porter and Phillips-Howard (1997) that previous experience with “multinational corporations” assisted smallholders by reducing their naivety, only the first eight smallholders had such an experience, because they happened to be ex-employees of KASCOL. The majority of the smallholders, who joined the project later in time, had been living on their parents’ lands growing mainly subsistence crops, prior to joining KASCOL. They did not have any experience of working with multinational corporations or any large companies, for that matter. Therefore, it would be expected that they would be agreeable to whatever promises given to them by the other stakeholders involved in the model.

6.3.4. Ownership of production assets

One other area of difference for the KASCOL model lay in the ownership of production assets. The smallholders, under the KASCOL model, did not bring any assets to the model and they did not own any production assets, except for their labour. They were dependent

on KASCOL for the land to produce their cane and to build their houses. They were also dependent on the Zambia Sugar Co., through KASCOL, for irrigation water. Such a condition has the potential of putting them in a position where they have no voice in the arrangement, as observed by Porter and Phillips-Howard (1997), from their study on some smallholder schemes in Africa. These authors suggested that smallholders should have ownership of land and water, because it is very hard to argue from a position of weakness, when you do not own the land and any production assets.

6.3.5. Type of commodity

Furthermore, the smallholders under the KASCOL model were engaged in the production of sugarcane, which is largely capital intensive. This is contrary to the recommendation by Patrick (2004) that smallholders need to be involved in the production of crops that are more labour intensive, in order for them to be able to utilise their family's labour, which they can afford. It is also contrary to what Porter and Phillips-Howard (1997) suggested: that smallholders should be involved in the production of crops that utilise technologies with which they are more familiar and which they can easily switch to another production line, in the event that the firm they were dealing with was taking them for granted.

Regardless of all the points previously mentioned, in which the KASCOL model appears to be deficient, the model was still able to increase the smallholders' participation, overtime. How was it then that this was able to happen in an eventually sustainable enterprise? The following section presents the factors, which have been found to have contributed to this success.

6.4. Factors contributing to the success of the KASCOL model

A number of factors were identified to have contributed to the sustainability of the model and the successful integration of the smallholders. (See Figure 6.1 for a diagrammatic representation of these factors).

6.4.1. Context

The important elements under ‘context’ include the industry, interdependence, stakeholders’ goals, and power relations.

Industry

The Zambia sugar industry (in general) and the Zambia Sugar Co., in particular, was seen to be growing and expanding, thus making room for the integration of smallholders. The inclusion of smallholders may not have been expected in an industry that was static or shrinking. In addition, the Zambia sugar industry was sufficiently viable to pay acceptable prices for the cane (Church, et al., 2008), thus securing satisfactory incomes and profits for farmers and shareholders. The parties to the arrangement were not “struggling to command a share of diminishing margins within the chain” (Fischer, et al., 2007, p. 46).

Furthermore, the sugar industry, in which this model operated, is one where investment in assets that are specific to that production line is necessary (Sartorius & Kirsten, 2005) and therefore assets are not easily transferable or disposable (Martinez, 2002; Williamson, 1981). As a result, a firm that goes into this industry makes a long-term commitment to produce sugarcane. Therefore, in agreement with Williamson (1981), who argued that partners operating in this type of an industry are more inclined to maintain their relationships over a longer period, it can be said here that, indeed, the type of industry in which this model operated contributed especially to its sustainability.

Interdependence

This study reveals that there was interdependence between the parties involved, in terms of the production assets available. Thus, in order for the parties to make use of these assets, it was cardinal for them to work with each other and maintain these relationships. For instance, KASCOL relied on the Zambia Sugar Co. for its irrigation water and the Zambia Sugar Co. needed sugarcane supplied by KASCOL, in order for its factory to operate at optimal capacity. The smallholders, on the other hand, relied on leasing land from KASCOL for their sugarcane production. This interdependency contributed to the

sustainability of the model, since the main stakeholders to the model needed each other, if they were to keep operating in the sugar industry, thus supporting the findings of Kumar, et al. (1995) and Monczka, et al. (1998).

Stakeholders' goals

The initial goals and intent of the Zambia Sugar Co., the Zambian government, CDC and the other stakeholders, created an environment conducive for the successful integration of the smallholders and the sustainability of the model. This is in agreement with the findings from other studies (Arino & De La Torre, 1998; Doz, 1996; Hoffmann & Schlosser, 2001) in which initial conditions are considered to be amongst the factors that affect the success of relationships that involve different parties. The Zambia Sugar Co. needed an extra supply of cane for its expanded mill factory and it could not source this amount from its own plantation and therefore it had to outsource. On the other hand, the Zambian government was also interested in the involvement of poor Zambians in the sugar industry, in order to reduce poverty, an interest which CDC also shared. Therefore, these goals and the fact that CDC had previous experience and was indeed looking for developmental projects to fund, facilitated the inclusion of the smallholders.

Furthermore, the long term interest of the controlling stakeholders (CDC and the other shareholders) at the onset of the project, to include the smallholders in the ownership structure of KASCOL, was seen to be important to the successful integration of the smallholders. The controlling stakeholders had a genuine interest to include the smallholders in the KASCOL ownership structure and this was observed in the initial ownership structure they put in place, which saw them pull-out and make room for others to own shares in the company, amongst them being the smallholders. If the initial goal of the controlling stakeholders would have been to make a profit for themselves — and therefore hold on to their shares in the company — it is not known whether room would have been created for the integration of the smallholders.

Power relationships

The Zambian government, which had majority shareholding in the Zambia Sugar Co. at that time (Nakaponda, 2006), had a greater power over the other stakeholders, as evidenced in the way they would intervene on behalf of the smallholders. This would relate to what Huxman and Beech (2008) refer to as ‘power based on structural position’, which placed the Zambian government in a more influential position. This gave the smallholders a voice in an environment where they were expected not to have any voice, due to the power imbalance between them and the firm (Glover & Kusterer, 1990; Sartorius & Kirsten, 2007; Warning & Key, 2002). With the influence from the government, the smallholders’ interests were looked after, until such a time when they had enough ‘footing’ to speak for themselves.

6.4.2. Governance

The effect of governance mechanisms in KASCOL’s success can be observed, in terms of the contracts, the composition of the board and the farmers’ association.

Contracts

The use of contracts in the KASCOL model was considered to be one of the factors, which contributed to the model’s sustainability, because they provided efficient incentives for the parties to work together. This is in agreement with the findings of Malhotra and Murnighan (2002). Although dependence on binding contracts is said not to nurture trust, it is however agreed that it fosters a greater sense of commitment from the parties involved, than in the case where only informal agreements are made (Malhotra & Murnighan, 2002). In the case of the KASCOL model, it most certainly appears to have done so, since the parties involved have kept working together for fear of repercussions of breaking the contract.

Board composition

As previously alluded to, the initial involvement of the Zambian government in the KASCOL board was significant for the inclusion of the smallholders, since their interests were protected as the government had a strong desire to improve the livelihoods of these

smallholders. Even as the smallholders grew their participation in KASCOL and the government withdrew from influencing the affairs of KASCOL, a place of safety was still reserved for the smallholders on the KASCOL board, since their purchase of shares was through two separate consortiums, through which their voice was unified with those of the other consortium members.

Farmers' group

One of the many lessons CDC brought from the Vuvulane Irrigation Scheme of Swaziland, was the need for a farmers' group with compulsory membership of all participating smallholders (Tuckett, 1977). As such, the smallholders were encouraged to form a farmers' group, in 1985, with all the participating smallholders required to be members. The formation of this group would not only reduce transaction costs for the KASCOL management, as pointed out in the literature (Coulter, et al., 1999; Hovhannisyan, et al., 2005; Patrick, 2004), but it would also enabled the smallholders to have a common voice and also increase their bargaining power (Kirsten & Sartorius, 2002; Patrick, 2004; Sartorius & Kirsten, 2007).

The choice of a farmers' group was a farmers' association, which is not a business entity (CIESIN, 2010) but one which would be a mouthpiece for the smallholders to the KASCOL management, thus enabling the smallholders to be included in decisions made at KASCOL. This meant that KASCOL still had the responsibility of collecting produce from each individual smallholder and that payments were still being made directly to the smallholders' accounts. However, the smallholders presented their grievances and requests through their representatives. In the same manner, if KASCOL management had some information to pass on to the smallholders, they would do so through the farmers' representatives.

The presence of the farmers' association proved beneficial to the smallholders, in that it was through this association that the smallholders were able to make proposals for an increase in their farm sizes and pay-outs, both of which were successful. However, the move to transform the association into a trust (which is a business entity) proved to be an

even better vehicle in which to develop the position of the smallholders in KASCOL, since smallholders would now also own shares in KASCOL. The trust was also awarded a cane-cutting contract with KASCOL and it also ran other business activities. This increased the smallholders' capacity to increase their wealth and influence.

6.4.3. Management skills

Coordination, supervision and learning were seen to be amongst the skills that KASCOL management possessed and these were instrumental in increasing the satisfaction of the parties involved and also in ensuring that the system operated efficiently.

Coordination and supervision

The system was coordinated, since all parties involved were clear on the roles they were to play. Supervision was available for the smallholders, through KASCOL's extension services, thus ensuring that all tasks were carried out as scheduled and desired. The smallholders received their inputs as required and the harvesting programme went according to schedule. This aspect of management is considered important to the success of any collaboration, as stated by Mohr and Spekman (1994) and Monczka, et al. (1998). This is because, as indicated by Pfeffer and Salancik (2003), it contributes to the parties involved in achieving their mutual goals: and if the mutual goals of the participants were being achieved, then the expectation would be that they were satisfied, thus sustaining the arrangement. As a result, the smallholders were contributing significantly to the KASCOL overall output, since they were bringing in over half of KASCOL's total supply to the Zambia Sugar Co.

Learning

The model was not static as such, as seen by the fact that KASCOL's management implemented changes in the way they worked with the smallholders. These changes reflected learning on the part of KASCOL management, as they sought ways on how to bring about efficiency in the system, in addition to increasing the smallholders' satisfaction and involvement in the arrangement. The learning was also a way to nurture social capital

in the model, because this meant that continuous communication and information-sharing had to take place between the smallholders and KASCOL management, before the changes could be implemented. This claim finds support with Arino and De La Torre (1998), Doz (1996) and Ring and Van de Ven (1994), who also considered learning to be of importance and a process through which personal bonds could be developed and nurtured.

6.4.4. Social capital

Although the initial conditions, governance structures and managerial competence were the key to the sustainability of the model, social capital was the most relevant factor, which affected the integration and inclusion of the smallholders', especially in an environment where most of the prevailing conditions were against the smallholders' success. The importance that this study has placed on the role social capital played in the KASCOL model is supported by the study of Tsai and Ghoshal (1998), where they found that social capital growth results in increased benefits for the stakeholders, since there will be a better exchange and utilisation of available resources. Furthermore, in this study, we see that the smallholders reaped some of those benefits, overtime. A build-up of social capital also results in the use of more 'constructive ways' of conflict resolution, because it involves mutual understanding of the conflicting party (Mohr & Spekman, 1994; Monczka, et al., 1998). According to these researchers, constructive ways of conflict resolution can lead to success, unlike the use of demeaning methods, which can only lead to further strife and the eventual collapse of the partnership. Evidence of this in the model under investigation is observed, in the fact that the smallholders, in particular, came from a place where they relied on government intervention for their problems to be solved, to a place where they could engage in meaningful discussions directly with KASCOL management, in order to resolve their differences, which is an indication of social capital growth between these partners.

Social capital can be assessed in terms of the presence and nature of personal relationships, communication, and trust (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998).

Personal relationships and communication

This study has shown that the communication line between the parties involved was open: and that information was shared freely. Firstly, the fact that the first smallholders had the privilege of having been ex-employees of KASCOL itself and this group formed a majority in the first farmers' association executive, helped to keep these communication lines open and to continue building personal bonds. Therefore, the initial personal bonds facilitated communication and the sharing of information, which is in agreement with other researchers (Adler & Kwon, 2002; Tsai & Ghoshal, 1998), and vice-versa, where communication and information sharing served to develop the social capital between the parties involved. This is in support of work by Ring and Van de Ven (1994), which pointed out that, as parties to a collaboration continuously interact, the result is closer personal bonds between them.

Secondly, it is clear that the smallholders were aware of the project's initial intent to include them as owners of KASCOL and (as such) they had 'hope' that kept them in the arrangement. The communication of these interests was also evidence of the social capital that was present in the model. It is possible that, if the controlling stakeholders had intended to involve the smallholders, and yet did not communicate this fact to them, the smallholders may not have had the motivation to continue supporting the arrangement.

Thirdly, the role that communication played in the successful integration of the smallholders was even more pronounced, when the smallholders were able to receive information concerning the sale of some of the initial shareholders' stock in the company and the fact they were advised to transform their farmer association into a trust, so that they could participate in purchasing these shares. This is what researchers, such as Fischer, et al. (2009) refer to as 'effective communication' and others, such as Mohr and Spekman (1994) and Monczka, et al. (1998) call 'quality communication', because it is not just any type of information shared, but it is the type that results in important decisions being made that contribute to the goals of the participating parties.

There is another point to consider, in regards to the managerial expertise that CDC brought into the model. Regardless of their experience, CDC still trained local personnel who took over the management of KASCOL in the late 1980s, less than 10 years into the project. The inclusion of local managers and extension workers, who were more familiar with the culture of the smallholders, helped in the facilitation of communication between the two parties. This is in support of what Reynolds, et al. (2008) recommended as a way to facilitate communication between partners, where one party would be considered a more dominant partner than the other. It is also similar to what Porter and Phillips-Howard (1997) referred to in their work, as the presence of a ‘liaison officer’.

Trust

Trust is also an important manifestation of the social capital that is present between collaborating partners (Adler & Kwon, 2002; Cohen & Prusak, 2001; Fischer, et al., 2007; Tsai & Ghoshal, 1998) and it is also important to the success of collaborations (Mohr & Spekman, 1994; Monczka, et al., 1998). Although some interviewed smallholders did not trust that the payments made to them were a true reflection of the cane prices, it was still evident that a certain level of trust was present and indeed this did contribute to the successful integration of the smallholders. This is because, over the years, KASCOL management had handed over the running of certain tasks that were previously its responsibility. For instance, they had given the Kaleya Smallholder Trust (KAST) the cane-cutting contract and (in addition) they had given the smallholders the responsibility of chemical application on their fields. Both these activities KASCOL considered important to obtaining satisfactory prices from their deliveries to the Zambia Sugar Co. In fact, one of the reasons why KASCOL management had not handed over the particular responsibility of applying chemicals to the smallholders earlier was the fear that some smallholders would not apply the recommended amount to their fields, in order to have extra chemicals to either apply to their own subsistence crops or to sell to others, a move which could potentially affect the cane yields. Reduced yields would imply reduced quantities supplied to the Zambia Sugar Co. which was a risk, since KASCOL had a sugarcane supply quota which it had to meet. However, this responsibility was now given to the smallholders without KASCOL necessarily having to put up any costly monitoring techniques. If this had been

the case, then, as Bachmann and Zaheer (2008) argued, it would have meant that KASCOL still distrusted the smallholders and eventually the costly monitoring measures would run the company down. However, KASCOL's willingness to hand over this role, plus others, is an indication of trust, which could be related to the social capital built up over the years, which gave the parties the liberty to discuss and implement matters of mutual interest.

6.5. Summary

An examination of the KASCOL model reveals that it fell short, in terms of some of the solutions suggested for the successful integration of smallholders into vertical coordination arrangements. This is because there was only one market for the smallholders' produce; sugarcane was the main and (for the majority of the smallholders) the only source of income; the majority of the smallholders involved had no prior experience with multinational corporations; the smallholders did not own any production assets in the arrangement; and the type of crop produced was mainly capital intensive.

Despite this situation, the model was still considered successful and the factors which contributed to this success include: (1) the context in which the model was developed, which showed a viable industry; strong interdependency between partners; stakeholders' goals with a strong desire to include the smallholders; and power relationships, which revealed that the government had a stronger influence amongst the other stakeholders; (2) the governance mechanisms of the model, in terms of the binding contracts signed between partners; the composition of the KASCOL board; and the presence of the farmers' group, which unified the smallholders and increased their bargaining power; (3) coordination and supervision, plus learning, as management skills; and (4) the presence and nurturing of social capital, manifested in the form of personal relationships, communication and trust, resulting in the use of more constructive conflict resolution methods and the discussion and implementation of matters of mutual interest. However, social capital growth was considered to have been the basis on which the model strived to include and assist the growth of the smallholders' participation.

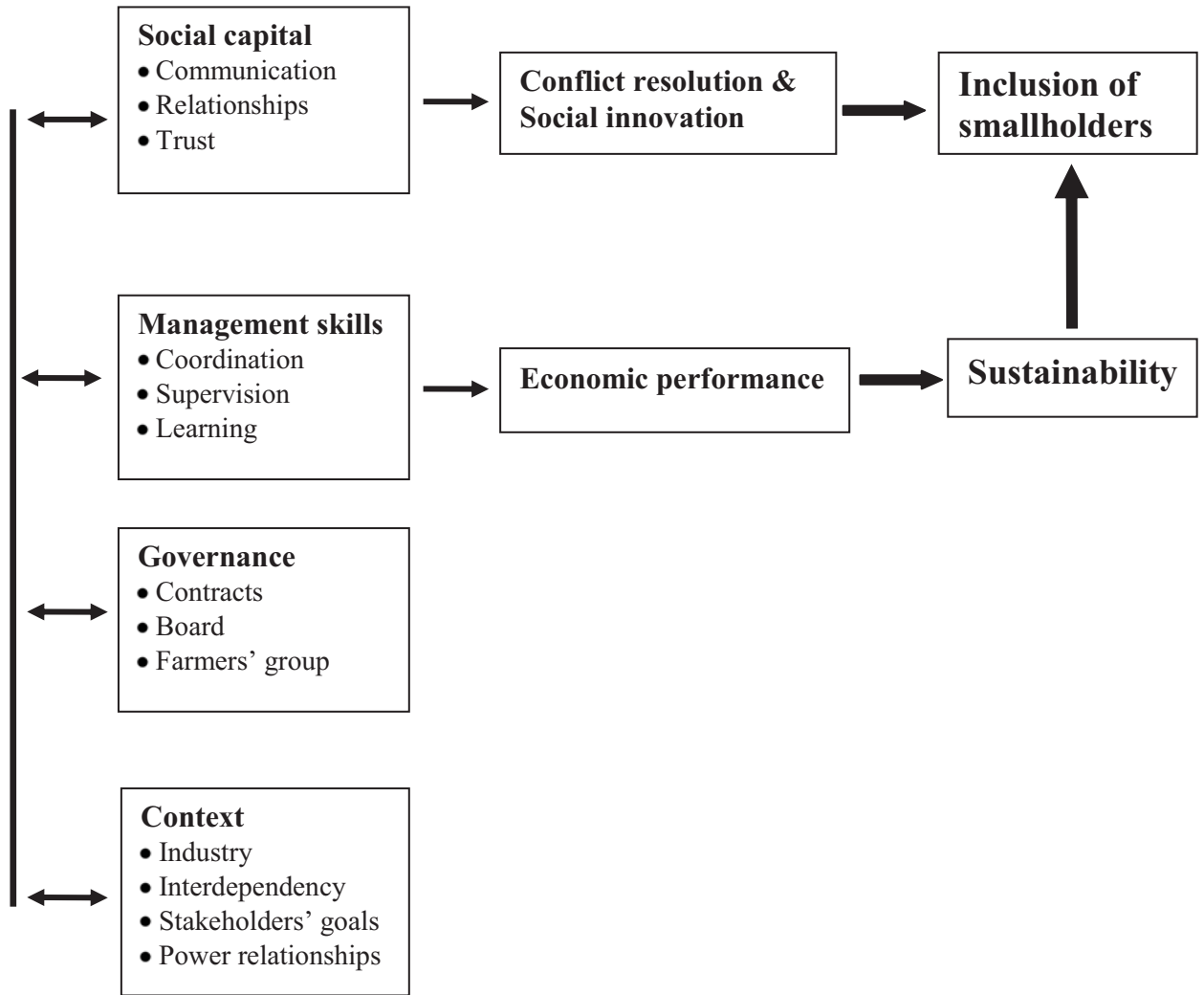


Figure 6.1: The KASCOL model for success

Chapter Seven: Conclusions, policy implications, and suggestions for future research

7.1. Introduction

As the fight against poverty continues, policy makers (not only in developing countries, but worldwide) explore ways to improve the livelihood of small farmers. This is in an environment where, at the same time, agribusiness firms have been increasingly engaging in closer vertical coordination arrangements, to better meet their changing customer and consumer needs (Kherallah & Kirsten, 2002; Louw, et al., 2005; Matopoulos, et al., 2007; Swinnen & Maertens, 2007; Young & Hobbs, 2002). Therefore, one of the strategies for fighting rural poverty has been to integrate smallholders into vertical coordination arrangements. However, the majority of such attempts have not made any difference to the livelihoods of small farmers (Baumann, 2000; Glover & Kusterer, 1990; Kherallah & Kirsten, 2002; Patrick, 2004; Porter & Phillips-Howard 1997; Sartorius & Kirsten, 2007; Singh, 2002a; Sriboonchitta & Wiboonpongse, 2005; Warning & Key, 2002). In addition, there is a need for a closer examination of successful experiences of smallholders' inclusion in vertical coordination arrangements, in order to draw lessons: and it is this need that has driven this study. The case under examination is the KASCOL model in the Zambian sugar industry, which has been in existence for 30 years: and it has successfully, during that time, included the involvement of smallholders (Bangwe, 2009; Church, et al., 2008; Nakaponda, 2006).

The key questions this study endeavours to answer are as follows:

- How has smallholder participation in the KASCOL model changed overtime?
- What are the reasons underpinning the model's successful smallholder participation and sustainability?

In order to answer these questions, a case study approach was employed, with in-depth interviews being the primary method for data collection. A total of 20 participants were interviewed, with representatives from each of the four main stakeholder groups to the model: that is, the Zambia Sugar Co., KASCOL management, the farmers' group (KAST), and the smallholders. In addition, other key informants outside the four groups previously mentioned, were also interviewed, in order to help validate the data and to also gain more insight into the subject matter. A document search was also conducted to validate the data from the interviews. The data collected were analysed, using a combination of qualitative data analysis techniques.

7.2. Summary of findings

KASCOL, as a company, was formed under the following main conditions: (1) The Zambia Sugar Co. needed extra cane for its newly expanded mill factory; and (2) the Zambian government wanted to improve the livelihoods of poor Zambians, by involving them in the sugar industry. CDC offered its technical and managerial expertise from its experience with similar projects in Africa. It designed the model and (together with two commercial banks) it provided a loan to set up the project. The Zambia Sugar Co., on the other hand, was to be the buyer of the cane produced at KASCOL under a supply contract and it agreed to supply the project with irrigation water. These four organisations (CDC, the Zambia Sugar Co. and the two banks) thus became the owners of KASCOL, each with a 25% stake in the company.

The smallholders were added to the model in 1983, with the first eight smallholders being KASCOL ex-employees. The number of smallholders in the project grew to 160, over a period of 10 years. The smallholders entered into a contract with KASCOL, under which they leased land from KASCOL and also produced cane, following the recommended practices. KASCOL management had the full responsibility of running all KASCOL activities, whilst the smallholders were given certain tasks to do in their cane fields. In 1985, the smallholders formed an association under the advice of KASCOL management, which took over the responsibility of representing them to management.

Changes in the model occurred in four main areas: ownership of KASCOL; governance; KASCOL management; and the participation of smallholders. In terms of ownership, two of the original shareholders sold their shares in KASCOL, thus making room for smallholders and some KASCOL employees to be amongst the new owners of KASCOL. In the case of governance, the major change came with the transformation of the farmers' association (KASFA) into a trust (KAST), in order for the smallholders to participate in the buying of shares disposed of by CDC and one of the banks. The change in KASCOL management occurred in the late 1980, when CDC gave up its role of managing the project and handed this responsibility to local managers. Evidence also shows that, over time, the smallholders were able to have their farm sizes and pay-outs increased. They were also included in the KASCOL shareholding structure and (in addition) they took up more responsibilities in the running of their farms.

Some testable propositions suggesting the reasons underpinning the success of the model were developed from the existing evidence. These propositions then led to the identification of a number of variables contributing to the success of the model. These variables were classified into the following categories: (1) the context that created an enabling environment for profit and healthy interdependency; (2) the governance structure, which allowed a balance within the power relationships; (3) the managerial skills, which were instrumental for operational efficiencies at all levels; and (4) the growth of social capital, expressed in terms of relationships, communication and trust.

7.3. Conclusions

In a vertical coordination model, where the smallholders had no alternative markets for their crop under production; they had only one major source of income; the majority had no previous experience in the production of that particular crop or with working with multinational companies; they did not own any production assets, except their labour; and they produced a crop which was largely capital intensive (all elements which are considered important for the successful integration of smallholders in a vertical coordination arrangement) the KASCOL model was still able to increase the smallholders' participation, over its 30 years (at the time of the study) of existence.

The context of the model, governance structures, managerial competence and social capital, were all found to be significant determinants of sustainability. Without any one of them, it is unlikely that an initiative, such as the one studied here, could thrive. However, the main claim resulting from this study is that the goal of smallholders' inclusion and increasing ownership is highly unlikely, without significant growth in social capital, even when all the other factors are in place. There are reasons to believe that the significant levels of social capital observed in the KASCOL experience did not emerge by chance: they were a result of purpose, governance structures and skilful management.

7.4. Policy and managerial implication

An examination of the KASCOL model shows that it removed many of the constraints faced by smallholders, in their quest for commercialisation, such as access to credit; availability of market and market information; access to irrigation infrastructure; storage facilities; and inadequate advisory services (ACI, 2005; Mwanaumo, 1999; Patrick, 2004; Seshamani, 1998). This study has thus brought to light several lessons, which could be useful to both policy makers and managers, bearing in mind that agribusiness firms will continuously seek ways of collaborating with each other, in order to better meet the needs of their customers — and the desire to involve smallholders in vertical coordination arrangements will always be there, as the fight against poverty continues.

The overall managerial implication of this study is that agro-industrialisation projects, which seek to include smallholders, must not only correctly establish their governance and management: they must also correctly establish their social capital.

It is of importance for the government, which has the interest of improving the livelihoods of the smallholders, to play a role in the initial stages of developmental arrangements, in order to balance out the power between the smallholders and the firms. This allows the smallholders to have a voice in the early stages of the project, when the social capital between them and the firm may still be low. This will prevent the smallholders from being exploited by the firm.

In order to ensure the inclusion of poor smallholders in vertical coordination arrangements, there is need for the government to step in and provide land. This is because access to land is the most common criterion for the selection of farmers and therefore, this tends to exclude the smaller farmers, who happen to be landless. In the case of the KASCOL model, the provision of land by the government required resettlement of individuals. This meant that individuals, who did not own land elsewhere, were the ones who were more willing to take the risk of uprooting themselves (wherever they were located) and resettle on the provided land. As such, automatic screening was undertaken between the larger and smaller farmers.

Smallholders should always be encouraged to form farmers' groups. As much as this benefits the smallholders, it also benefits the firms, since it helps to reduce the transaction costs of dealing with the smallholders. In the case of the smallholders, however, it helps to reduce the power imbalance between the firm and the smallholders, thus helping them to increase their bargaining power. The presence of the farmers' group also helped in building communication channels between the firm and the smallholders, thus cultivating social capital needed for the sustainability of the project and increased participation of smallholders.

Policy makers need to encourage the involvement of smallholders in competitive industries, which ensures that both the firms and the smallholders involved are able to generate good incomes, thus motivating both parties to continue working together.

A genuine interest in developing the participation of smallholders, by stakeholders, is important and it should be communicated to them, in order that they are aware of future changes and they can channel their efforts to working towards a common goal. This communication and genuine interest nurtures social capital, which in turn contributes to the sustainability and inclusion of smallholders.

The KASCOL model is, however, limited in growth, in terms of the amount of land which can be dedicated to cane production. Currently, the smallholders are farming up to 7.5 Ha,

with very little hope for further expansion, since increasing their farm sizes automatically reduces KASCOL's own estate (from which shareholders derive their dividends). Therefore, their only hope of growth lies in them investing their income into other businesses outside of the project area. Thus, business management and entrepreneurship are important skills, which smallholders involved in such types of arrangements need to be taught.

7.5. Suggestions for future research

This study only considered the KASCOL model, up to the year 2010. The change in the shareholding structure of the model took place in 2005 and 2006, meaning that the real effect of this change may not have been evident, at the time of this research. It would, therefore, be of interest to examine how the change in ownership of KASCOL, which is now partly owned by the smallholders and some KASCOL employees, has affected the success of the model, in terms of its sustainability in the future. This could be important in assessing the length to which the development of smallholder participation should go.

This study, having been a single case study, may have omitted key issues of interest and importance, to the successful integration of smallholders in vertical coordination arrangements. Therefore, an investigation of a similar model operating under a different context, than the KASCOL one, could be undertaken, in order to test the propositions offered in this study.

Another possible research area would be to conduct a detailed economic assessment of the KASCOL model, in order to compare the participants' *perception* of success and the *actual* figures, with comparisons made to other crops grown by smallholders in the district, such as cotton and maize, in order to determine whether the model is a success for the smallholders, in terms of the general economic indicators in Zambia.

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Appendices

Appendix 1: Photographs



Figure App-1.1: Interview with the KAST chairperson



Figure App-1.2: Interview with a smallholder in his vegetable garden



Figure App-1.3: A smallholder showing off produce from his ½ Ha plot



Figure App-1.4: Cane harvesting



Figure App-1.5: A group of women smallholders' extra source of income

Appendix 2: Interview guide

Interview schedule for smallholders

1. Background information
 - Gender
 - Age
 - Educational level
 - Family size
 - Group number
 - Length at KASCOL

2. Partnership with KASCOL
 - When did you join KASCOL?
 - What were you doing prior to joining KASCOL?
 - What were your goals for joining KASCOL?
 - What benefits did you anticipate?
 - Did you foresee any risks of such an arrangement?
 - How long were you expecting the relationship to last?
 - What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?
 - What were the roles of KASCOL when the relationship just started? Has that role changed? When did it change and why? What role is KASCOL currently playing?
 - Are there any other people/groups/organisations/bodies that have played a role in this relationship? When did their involvement come in, and why? What is their role? Has it changed overtime?

3. Partnership with the farmer group (KSFA/KAST)
 - When was KSFA formed and why?
 - Who decided it should be formed?

- What were the goals for forming KSFA?
- What benefits did you anticipate?
- Did you foresee any risks to forming KSFA?
- How long were you expecting the relationship to last?
- What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?
- What were the roles of KSFA? Has that role changed? When did it change and why? What role is KSFA currently playing?

4. General questions

- What do you appreciate the most about this arrangement?
- Where do you see this relationship heading to?
- If it was just in your power to make changes to this system, what would it be?
- Why do you think this relationship has managed to last this long?

Interview schedule for Zambia Sugar Company

1. Background information

- Gender
- Length of period with Zambia Sugar Co.

2. Partnership with KASCOL

- Why did you decide to adopt this strategy as opposed to producing on your own?
- What were your goals for entering the relationship?
- What benefits did you anticipate?
- Did you foresee any risks?
- How long were you expecting the relationship to last?
- What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?

- What were the roles of your partner when the relationship just started? Has that role changed? When did it change and why? What role is your partner currently playing?
3. General questions
- How do you think this collaboration has worked (success or failure)? Why do you think that
 - Why do you think this relationship has managed to last this long?
 - Where do you see this relationship heading to?
 - If it was just in your power to make changes to this system, what would it be?

Interview schedule for farmer group representatives

1. Background information
- Gender
 - Age
 - Educational level
 - Family size
 - Group
 - Length at KASCOL
 - Position held in the executive
2. About the farmer group (KSFA/KAST)
- When was KSFA/KAST formed and why?
 - Who decided it should be formed??
 - What were the goals of forming KSFA/KAST?
 - What benefits did you anticipate?
 - Did you foresee any risks to forming KSFA/KAST?
3. Partnership with KASCOL
- What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?

- What were the roles of KASCOL when the relationship just started? Has that role changed? When did it change and why? What role is KASCOL currently playing?
4. Partnership with smallholders
 - What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?
 - What were the roles of the smallholders? Has that role changed? When did it change and why? What role are the smallholders currently playing?
 5. General questions
 - How do you think this collaboration has worked (success or failure)? Why do you think that
 - Why do you think this relationship has managed to last this long?
 - Where do you see this relationship heading to?
 - If it was just in your power to make changes to this system, what would it be?

Interview schedule for KASCOL management

1. Background information
 - Gender
 - Length of period in KASCOL management
2. About KASCOL
 - When was KASCOL formed and why?
 - Whose idea was it to form KASCOL?
3. Relationship with smallholders
 - Why did you decide to involve the smallholders as opposed to producing on your own?
 - What were your goals for entering the relationship?
 - Why did you pick on the smallholders instead of more experienced larger farmers?
 - What benefits did you anticipate?

- Did you foresee any risks?
 - How long were you expecting the relationship to last?
 - What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?
 - What were the roles of the farmers when the relationship just started? Has that role changed? When did it change and why? What role are the smallholders currently playing?
4. Relationship with the farmer group (KSFA/KAST)
- When was KSFA/KAST formed, and whose idea was it?
 - What benefits did you anticipate?
 - Did you foresee any risks?
 - How long were you expecting the relationship to last?
 - What were the roles of KSFA/KAST when it was just formed? Has that role changed? When did it change and why? What role are they currently playing?
5. Relationship with Zambia Sugar Company
- What were your goals for entering into a supply relationship with Zambia Sugar Co.?
 - Why did you pick on Zambia Sugar Co.?
 - What benefits did you anticipate?
 - Did you foresee any risks?
 - How long were you expecting the relationship to last?
 - What was your role in this relationship when you just started? Has your role changed? When did it change and why? What role are you currently playing?
 - What were the roles of Zambia Sugar Co. when the relationship started? Has that role changed? When did it change and why? What role are they currently playing?
6. General questions
- How do you think this collaboration has worked (success or failure)? Why do you think that

- Why do you think this relationship has managed to last this long?
- Where do you see this relationship heading to?
- If it was just in your power to make changes to this system, what would it be?

Appendix 3: Information sheet

The successful integration of smallholders in vertical coordination arrangements – experiences of the KASCOL model in Zambia

INFORMATION SHEET

Introduction

My name is Sepiso Mungandi, and I am in Mazabuka, Zambia, to do field work for my thesis for a Masters in AgriCommerce. I am a student at Massey University in Palmerston North, New Zealand.

Project Description and Invitation

My research is titled *'The successful integration of smallholders in vertical coordination arrangements – experiences of the KASCOL model in Zambia.'* The purpose of this research is to get an understand of the KASCOL model and how the participation of smallholders has changed overtime so as to determine the factors that have contributed to the success of the model. I intend to have interviews with the parties involved in this arrangement, that is, smallholders, KASCOL management, Zambia Sugar Co., Kaleya Smallholder Farmer Association. In addition, I am hoping to get interviews with other stakeholders like government representatives and the civil society.

I am therefore inviting you to participate in this study. If you do decide to take part, you will be asked to sign a consent form on which you can choose to have your name and position acknowledged in this research. The interview will take approximately one hour. With your permission, I would like to audio tape the interview session.

Participant's Rights

If you decide to participate, you have the right to:

- Decline to answer any particular question;
- Withdraw from the study at any time during participation
- Ask any questions about the study at any time during participation;

- Provide information on the understanding that your name will not be used unless you give permission to the researcher;
- Be given access to a summary of the project findings when it is concluded.
- Ask for the recorder to be turned off at any time during the interview.

Data Management

Data obtained will be analysed and used for my Masters degree in AgriCommerce thesis and for other academic publications. All data will be stored securely in a safe place. To protect your privacy, I will ensure that the translator signs a confidentiality agreement, where applicable. Where required, names will be changed and pseudonyms will be used to ensure anonymity and confidentiality. All recorded interviews will be kept safely by Massey University and will be erased after a period of five years. The thesis will be accessed through the Massey University library.

Project Contacts

For your convenience, contact details of me and my two supervisors have been provided below:

Researcher	Chief Supervisor	Second Supervisor
Sepiso Mungandi	Mr. Daniel Conforte	Dr. Tanira Kingi
34/245 Ferguson Street	Senior Lecturer, Agribusiness	Science Advisor Maori
Palmerston North	Department, Institute of Food,	AgResearch Ltd
New Zealand	Nutrition and Human Health	
	Massey University	
	Private Bag 11222	
	Palmerston North	
	New Zealand	
Ph: (+64)6 3572088	(+64) 6 356 9099	(+64) 6 3518335

Mobile #

(+64) 212898335

Fax (+64) 6 3505657

(+64) 6 3505657

sepisomun@yahoo.com

D.Conforte@massey.ac.nz

tanira.kingi@agresearch.co.nz

I thank you in advance for your participation,

Sepiso

“This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University’s Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O’Neill, Director, Research Ethics, telephone 06 350 5249, email humanethics@massey.ac.nz”.

Appendix 4: Consent form

**The successful integration of smallholders in vertical coordination arrangements –
experiences of the KASCOL model in Zambia**

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature:

Date:

.....

Full Name - printed

.....

Appendix 5: Confidentiality form

**The successful integration of smallholders in vertical coordination arrangements –
experiences of the KASCOL model in Zambia**

CONFIDENTIALITY AGREEMENT

I (Full Name - printed)
agree to keep confidential all information concerning the project

I will not retain or copy any information involving the project.

Signature:

Date:

.....

.....

Appendix 6: KASCOL model facts

1	When scheme commenced	1980
2	Contract crop	Sugarcane
3	Number of smallholders	160
4	Total area of land	4,179 Ha
5	Total arable land	2,500 Ha
6	Total land cultivated by smallholders	1067
7	Nucleus estate land	1100
8	Individual smallholder cane land	6.2 Ha - 7.5 Ha
9	Total annual cane supply (estate and smallholders)	200,000-259,000 tonnes
10	Average yield per Ha	120.2 tonnes/Ha
