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## **Integration of Smallholders in Modern Agri-food Chains: Lessons from the KASCOL Model in Zambia**

Sepiso Mungandi<sup>a</sup>, Daniel Conforte<sup>b</sup> and Nicola Mary Shadbolt<sup>©c</sup>

<sup>a</sup>*Graduate Student, Institute of Food Nutrition and Human Health, Massey University, Private Bag 11 222, Palmerston North, Manawatu 5451, New Zealand.*

<sup>b</sup>*Senior Lecturer Agribusiness, Institute of Food Nutrition and Human Health, Massey University, Private Bag 11 222, Palmerston North, Manawatu 5451, New Zealand.*

<sup>c</sup>*Professor, IFNHH, Massey University, Private Bag 11222, Palmerston North, Manawatu, 4442, New Zealand*

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### **Abstract**

The Kaleya Smallholders Company Limited (KASCOL) model has been considered in Zambia a success in increasing smallholders' participation, ownership and governance in an agri-food value chain. This study explores if and why this was a successful experience. The evidence gathered revealed that along its thirty years of existence, the model was able to grow the smallholder ownership and governance role. Although the context, governance structures and managerial competence were necessary factors in the sustainability of the model, the variables related to social capital were key determinants for the long term successful inclusion of the smallholders.

**Keywords:** Agri-food value chain, smallholders, contract farming, social capital, KASCOL, Zambia

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<sup>©</sup>Corresponding author: Tel: + 64.63569099  
Email: N.M.Shadbolt@massey.ac.nz  
S. Mungandi: sepisomun@yahoo.com

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## Introduction

As the fight against poverty continues, policy makers in developing countries explore ways to improve the livelihood of small farmers. At the same time, agribusiness firms have been increasingly engaging in closer vertical coordination arrangements to better meet changing customer and consumer needs (Hennessy 1996; Kliebenstein and Lawrence 1995; Young and Hobbs 2002). One of the strategies for fighting rural poverty has been to integrate smallholders in agri-food value chains. However, this has its challenges and, as identified by a number of researchers, many such attempts have not made a difference to the livelihood of small farmers (Baumann 2000; Glover and Kusterer 1990; Kherallah and Kirsten 2002; Patrick 2004; Porter and Phillips-Howard 1997; Sartorius and Kirsten 2007; Singh 2002; Sriboonchitta and Wiboonpongse 2005; Warning and Key 2002). A close examination of successful experiences of smallholders' inclusion in agri-food value chains is therefore required to more accurately identify the solutions to the challenges noted above.

In the Zambian sugar industry, an example of successful smallholders participation in a vertical coordination model has been in existence since 1980 (Bangwe 2009; Church et al. 2008; Nakaponda 2006). This model which is known as KASCOL, involves a sugar milling company (Zambia Sugar Company), a farmer association (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 have increased significantly, no in-depth investigation has been conducted so far to understand the reasons of such success.

The objectives of this paper are (1) to understand the KASCOL model and how the smallholders' participation changed over time; and (2) to identify the reasons underpinning the model's sustainability and successful smallholder participation.

## Background Theory

### *Smallholder Participation in Agri-food Value Chains*

Smallholder farmers in developing countries have found it hard to participate in commercial agriculture and the production of high value products (Catelo and Costales 2008; Jauch 1999; Pletcher 2000; Seshamani 1998). There are various suggestions presented for this; one is the market liberalisation policies promoted by the World Bank and the International Monetary Fund (IMF) in the 1980s and 1990s (Mwanaumo 1999) that transferred government responsibility for the provision of agricultural inputs and of a market for farmers' produce (Catelo and Costales 2008; Pletcher 2000) to the private sector. Others include the lack of collateral for smallholders to access loans from lending institutions, no guaranteed market for their produce, lack of investment by governments in infrastructure (roads, power, water and education) and poor engagement with agri-food value chains which offer them very little opportunity for growth and expansion. There are also those smallholders who have been empowered by change and now participate effectively in markets, examining one such group was the purpose of this research.

### *Governance of Vertical Coordination Arrangements*

The governance of vertical coordination arrangements refers to how the consecutive stages of production, marketing, and processing are synchronised, and who carries the responsibility of conducting which activity (Frank and Henderson 1992; Martinez 2002). Buvik and John (2000, 53) define management of vertical coordination as “the purposive organization of activities and information between independent firms.” 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 returns from business undertakings. Firms choose from a range of possible forms of vertical coordination, which can also be referred to as governance structures, based on transaction cost economics considerations (Frank and Henderson 1992; Hobbs and Young 2000; Schulze, Spiller and Theuvsen 2007). 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 what is desired (Williamson 1981). A firm will therefore try to find which governance form best reduces its transacting costs. According to New Institutional Economics, governance structures are bound to change over time as the institutional environment and the nature of transactions change, and firms continue to seek and find ways that best reduce these costs (Kherallah and Kirsten 2002; Frank and Henderson 1992; Martinez 2002; Sartorius and Kirsten 2005; Williamson 1981).

### **Contract Farming**

Contracts are one form of transaction governance. Smallholders in developing nations have been offered contracts to participate in commercial farming (Kirsten and Sartorius 2002). Contract farming has a potential for reducing poverty. The benefits of contract farming for smallholders include better access to new technologies; access to inputs and markets; pre-determined prices; and overall increase in farm incomes (Baumann 2000; Glover and Kusterer 1990; Weatherspoon, Cacho and Christy 2001). Firms that contract with smallholder farmers, here called the focal company, also stand to benefit from these arrangements. Among the benefits is that they are able to more directly influence delivery of a desired supply of both quantity and quality that enables them to run their processing plants at optimal capacity (Baumann 2000; Glover and Kusterer 1990; Weatherspoon et al. 2001). In so doing, they are better positioned to meet the new food standards of their customers.

Contract farming is, however, not without problems. Frequent problems arise from the unequal power relations where the focal firm has more power and control over the farmers; the shifting of management decisions from the farmer to the firm; and the problem of quality control. Furthermore, agro-industrial firms tend to prefer to engage with relatively larger farmers, or collectives/cooperatives of smaller farmers, in order to reduce transaction costs thus leaving out the small individual farmers (Baumann 2000; Glover and Kusterer 1990; Kherallah and Kirsten 2002; Patrick 2004; Porter and Phillips-Howard 1997; Sartorius and Kirsten 2007; Singh 2002a; Sriboonchitta and Wiboonpongse 2005; Warning and Key 2002).

Several studies have explored how to mitigate the problems of contract-farming. From the focal company point of view, the possible solutions include: (a) operating under monopsonic conditions which reduces the chances of farmers renegeing and selling their produce elsewhere (Glover

and Kusterer 1990; Singh 2002b); (b) working with smallholders organized in groups so as to reduce transaction costs (Coulter, Goodland, Tallontire and Stringfellow 1999; Hovhannisyan, Urutyan and Dunn 2005; Patrick 2004); and (c) using liaison agents who can assist the firm bridge communication gaps with their contracted farmers; these can be in the form of extension officers who also offer technical assistance and other support services to the farmers (Porter and Phillips-Howard 1997).

The suggested solutions for increasing the benefits for smallholders are (a) avoiding monopsonic markets or potential hold-up situations (Sriboonchitta and Wiboonpongse 2005; Warning and Key 2002); (b) having alternative sources of income which can enable them to pull out of an unsatisfactory arrangement (Porter and Phillips-Howard 1997); (c) having previous experience of working with large firms, a situation which is said to prevent them from being naïve (Porter and Phillips-Howard 1997); (d) having ownership of the main production assets such as land and equipment and also having water rights which enables them to have a voice in the arrangement (Porter and Phillips-Howard 1997; Warning and Key 2000; and (e) being represented by a farmer group so that they have a common voice (Coulter et al. 1999; Patrick 2004; Sartorius and Kirsten 2007). Other solutions include the use of community contacts in the selection process (Warning and Key 2002); setting up of common property to enable them to access production resources (Chen 1989); and engaging them in the production of more labour intensive crops so that they are able to utilise family labour (Glover 1987; Patrick 2004).

## **Social Capital**

Social capital in organizations “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 actions possible” (Gabbay and Leenders 2001, 4). Social capital grows with increased trust and trustworthiness between collaborating partners (Adler and Kwon 2002; Cohen and Prusak 2001; Fischer, Gonzalez, Henschion and Leat 2007; Tsai and Ghoshal 1998) and also with the sharing of information (Adler and Kwon 2002; Tsai and Ghoshal 1998). Tsai and Ghoshal (1998) in their study of the role that social capital plays within a firm found that the nurturing of social capital overtime results in increased benefits as resources are exchanged and combined more effectively. For Nahapiet and Ghoshal (1998, 260) “differences between firms, including differences in performance may represent differences in their ability to create and exploit social capital.” Both studies suggest that the development of social capital occurs over a long period of time and that social capital is a major determinant of efficient relationship management. The following constructs are related to the stock of social capital in organizations.

### *Initial Conditions*

According to Arino and De La Torre (1998), Doz (1996), and Hoffmann and Schlosser (2001), the prevailing “initial conditions” to a collaboration arrangement contribute to its success. Initial conditions can include the parties’ expectations; 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. Doz (1996) points out that these initial conditions can either create a conducive learning environment or otherwise make learning very difficult.

### Interdependence

Interdependence is “a firm’s inability to replace its [existing] partner” (Kumar, Scheer and Steenkamp 1995, 349). That is, partners need each other to succeed in their undertakings. Monczka et al. (1998) in their study of ‘strategic supplier alliances’ found that interdependence contributes to the success of a partnership. Kumar, et al. (1995) found that relationships that tend to have a greater ‘interdependence asymmetry, which is when one partner is more dependent than the other, are more likely to have increased conflicts and distrust, thus a lower chance of survival and success.

### Power Relations

Power can be defined as “the ability to influence, control, or resist the activities of others” (Huxham and Beech 2008, 555). In collaborations, it is not expected that the parties involved will share power equally, however, collaborations which have little power imbalance are more likely to work better than otherwise (Fischer et al. 2009; Reynolds, Fischer and Hartmann 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, Vlachopoulou, Manthou, and Manos 2007). This has the potential to reduce free negotiations and commitments, thus resulting in dissatisfaction by the less powerful partner.

There are various sources of power in collaborations, and according to Huxham and Beech (2008) these can be grouped into macro-level and micro-level. Their summary of the sources of these categories of power is provided in Table 1.

**Table 1.** Sources of Inter-organizational Power

Macro-Level		Micro-Level	
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)

**Source.** Huxham and Beech (2008)

### Communication

Effective communication between collaborating parties can determine the sustainability of that relationship (Reynolds et al. 2008). Effective communication indicates the sharing of information that is relevant for better decision-making and achieving of set goals and thus a long-term relationship (Fischer et al. 2009; Mohr and Spekman 1994; Monczka et al. 1998; Reynolds et al. 2008).

### Trust

Bachmann and Zaheer (2008) argue that trust makes the risks of transactions more bearable for the parties. Firms that do not trust each other will tend to put in place monitoring measures that can prove to be costly. Eventually only trusting relationships are sustainable. Studies conducted

by Monczka, et al. (1998) and Mohr and Spekman (1994) showed that there is a strong positive correlation between trust and the success of a collaboration.

### *Learning*

Collaborating parties go through a process of negotiating and re-negotiating their commitments, and of constant evaluation and adjustments of collaborative arrangements in terms of efficiency and equity. The more the parties move along this cycle, the more they learn about alternative courses of action, outcome preferences, and the institutional rules, resources and settings in place (Cheng and Van de Ven 1996) and the more they get to implement measures that are more efficient and more equitable for them (Arino and De La Torre 1998; Ring and Van de Ven 1994). This is consistent with the empirical findings of Doz (1996) that “alliances” that continuously go through this process tend to perform better and last longer than those that are rigid. The capacity to learn collectively affects an organization’s ability to deal with coordination and conflict resolution problems.

### *Coordination*

When collaboration is formed, coordination becomes an important aspect of that relationship (Pfeffer and Salancik 2003) since it affects operational efficiency. Coordination specifies who is going to carry out what activity, and how the parties are going to work together to achieve their goals. Coordination contributes to the success of collaborations as evidenced in the studies conducted by Mohr and Spekman (1994) and Monczka et al. (1998).

### *Conflict Resolution*

Conflicts in collaborations are inevitable and their handling is important to the success of that collaboration (Gray 2008). Arino and De La Torre (1998) argue that putting in place good conflict resolution strategies have a positive impact on the quality and longevity of the relationship. Monczka et al. (1998) and Mohr and Spekman (1994) in their separate studies 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.

## **Methodology**

A single case study approach was followed based on in-depth interviews. Twenty face-to-face interviews were conducted in Zambia during mid 2010 with representatives from each of the four parties to the model, that is, two representatives of the Kaleya Smallholders Trust (KAST); four management members of the Kaleya Smallholders Company Ltd (KASCOL); two managers of the Zambia Sugar Company; and with several smallholders – eight long time members and four successors. The interviewees were selected to assure that representative participants from each of the relevant groups were interviewed (Ritchie and Lewis 2003). The responses were cross-checked between participants. The responses from the in-depth interviews were also 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 other key informants 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 digitally recorded, except for the interview with the former CDC employee; in this case a list of questions was emailed to him and he returned a typed script of his responses. Furthermore, a document search of company and government records was conducted to validate background information and the sequence of key events.

All interviews were digitally recorded. The recorded interviews were transcribed verbatim. A combination of methods for analysing process data were used (Langley 1999). The data were first categorised under seemingly relevant themes as suggested both by the literature and by the interviewees’ own narrative (Ritchie and Lewis 2003). This process was helpful for data reduction and for providing a preliminary understanding of the KASCOL model, its process of development, and its key components. Then visual mapping and narrative analysis approaches were used for sense-making, identification of events and categories, and process description (Langley 1999; Pozzebon and Pinsonneault 2001). Explanatory accounts were used to identify patterns in the refined data (Pettigrew 1997), and for hypothesis building. As indicated by Ritchie and Lewis (2003), the process of analysing and sense-making was not linear but one of consecutive iterations through which categories and themes were refined and meanings and explanations gradually emerged.

The limitations of this study stem from the fact that the study relied on the participants’ memory in order to track the evolution of the KASCOL model and how the participation of the smallholders had changed over time. Therefore the accuracy of the data collected could have been flawed. In addition, the inability to get hold of some of the originators of this project in terms of the initial management and those who were involved as things were getting started may have resulted in some pertinent issues being missed.

## **Findings**

This section presents the findings from the study. It begins by describing the KASCOL model, how it changed over time, and how the participation of the smallholders also changed over time. Ten propositions suggesting the reasons for the success of the model are presented.

## **The Kascol Model**

### *Initial Stakeholders, Goals and Circumstances*

Two drivers triggered the establishment of the KASCOL model. One was the need of the Zambia Sugar Company, at the time the sole sugar milling company in the country, to expand the area of sugarcane after it had expanded its plant processing capacity in the Mazabuka district. The other was the interest of the Zambian government to improve the incomes of the poor by involving them in the sugar industry.

### *Organization*

The Commonwealth Development Corporation (CDC) was asked to suggest an organizational model based on its experience with similar projects in Africa. The model suggested by CDC would create 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) would lease part of the 2,500 hectares of arable land to smallholders for the production of sugarcane; (3) would plant its own sugarcane on the remaining area to cover its overhead costs; (4) would provide agricultural services and advice to the smallholders; and (5) would facilitate relationships between the smallholders and the Zambia Sugar Company who would provide irrigation water and buy the sugarcane. The smallholders would assume the responsibility of activities such as ridging, smut rouging, chemical application, weeding, and irrigating their cane fields. KASCOL would be responsible for cane-harvesting; supervising the farmers' field activities; replanting the cane; water management; providing the technical, financial, and managerial and leadership skills; grading community roads; and providing other social amenities such as domestic water and recreational facilities to smallholders. In 1980, the company was formed.

### *Ownership*

The initial four shareholders of KASCOL were CDC and two commercial banks who provided loans for financing infrastructure and equipment, and Zambia Sugar Co. who provided irrigation water. CDC provided the managerial resources and expertise based on its previous experience with similar projects in Africa.

### *Smallholders*

It was not until 1984, after everything had been set up, that the first smallholders were integrated to the model. Only eight smallholders responded to the first public invitation to join the project; people were dubious of both the sugarcane crop, not a traditional crop, and of organizational arrangement. The first eight smallholders were subjected to a selection process by a panel 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 hectare cane field, plus half hectare plots, to build his/her house on and grow subsistence crops. These first volunteers happened to be ex-employees of KASCOL and all had a relationship with KASCOL management and hence trusted the proposed system. However, the following year interest in the project grew after the 8 smallholders received their income. As a result, the number of smallholders increased to 160 over a period of 10 years until the entry of new farmers was closed in 1994.

### *Governance*

The initial Board of Directors of KASCOL consisted of a proportional representation of shareholders from CDC, the Zambia Sugar Co. and of the two commercial banks. In addition, the Zambian government appointed a high ranking official from the Ministry of Agriculture, who had a strong inclination to serving the interest of the smallholders.

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 would receive irrigation water. On the other hand, KASCOL and the smallholders signed an agreement by which the smallholders would lease land from KASCOL for a renewable 14 years period, would grow cane following the stipulated agronomic practices, and would receive agronomic services and irrigation.

In 1985 the smallholders formed an association called the Kaleya Smallholder Farmers Association (KASFA). This initiative was in response to advice given by KASCOL. The initial farmer association executive was composed mostly by the first eight smallholders to join the project. The primary role of KASFA was to represent the smallholders in negotiations with KASCOL. The chairperson of the farmer association also attended the KASCOL board meetings.

## **Changes Overtime**

Significant changes happened over time in terms of ownership, governance, management and the participation of smallholders. One change was an increase in the participation and voice of the smallholders. In 2001, as a result of the lobbying of the farmer association, the smallholders had their individual cane production areas increased from the initial 4 hectares to up to 7.5 Ha. This increase brought the cane land ratio between KASCOL's own plantation and the smallholders' to almost 50/50. In addition, the farmer association successfully lobbied for an increase in the payout for their sugarcane. Another change came in 2005 after KASCOL had fully repaid all its initial loans. CDC and one of the banks sold their shares in KASCOL to the public. The shares were purchased by a variety of people including smallholders and KASCOL employees through two separate consortiums. Also, Zambia Sugar Co. donated its shares to the Mazabuka Cane Growers Trust (MCGT), a trust it had created to support sugarcane growers. Yet another change was in 2006 when the farmer association was transformed into a Trust (Kaleya Smallholder Trust, KAST) which allowed them to participate in the acquisition of the shares disposed of by CDC and one of the banks, thus gaining representation in the KASCOL board. The new Board of Directors was integrated then by representatives of the remaining bank, the two shareholding consortiums, and the Mazabuka Cane Growers Trust. At this point the smallholders and KASCOL employees held a 25% share in KASCOL through two consortiums and one trust. KAST was also able to secure a cane-cutting contract with KASCOL in 2006. The last main change occurred when CDC, which was a foreign development agency, stepped down in the late 1980s from its managing role in KASCOL and turned it over to Zambian nationals.

### *Reasons for the Success of KASCOL*

The KASCOL model is considered a success not only because it was sustainable but, most importantly because it increased smallholders participation, governance role and ownership over time. There is also evidence of an increase in the smallholders' farm sizes and payouts overtime.

Four orders of factors played a role in the sustainability of the KASCOL model and the successful integration of smallholders, (1) the context that created an enabling economic and social environment; (2) the governance structure that helped to balance power between the parties involved; (3) the managerial and leadership skills which were instrumental for operational

efficiencies at all levels; and (4) the growth of social capital expressed in terms of trusting relationships, communication and conflict resolution.

The initial goals of the Zambia Sugar Co. to increase its mill throughput, and of the Zambian government to involve ordinary Zambians in the sugar industry, were the major drivers for this initiative. In addition, 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. As indicated by one of the former CDC officials who had a leading role in the initial set up of KASCOL,

*“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 organization, 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 industrial context, in terms of the sugar industry in general and the Zambia Sugar Co in particular, was one of growth. The 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 in 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 interest of integrating smallholders in the ownership structure. This was pointed out by the former CDC official who had worked in setting up 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. Whilst I was there it was envisaged that the shares would be sold and not given away.”*

This interest was maintained as the ownership structure changed overtime as evidenced by the fact that smallholders eventually became shareholders in KASCOL. Obvious as it may seem, it is unlikely that an ownership structure without genuine interest in including and maintaining 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 highly specific to the industry. In the case of the KASCOL model, it is not only the high asset specificity in the sugar industry that may have kept the parties working together, but that the parties involved were also very

dependent on each other. The Zambia Sugar Co. capacity expansion could not be satisfied by their own plantations, and therefore had to outsource. On the other hand, KASCOL as a company was dependent on the Zambia Sugar Co. for irrigation water, and the smallholders on KASCOL for land to grow their cane. The land was provided to KASCOL by the Zambian government. Therefore, aside from the fact that the parties, in particular, the Zambia Sugar Co. and KASCOL had high asset specific investments made, they all were dependent on each other to operate as desired.

**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, former chairperson for the farmer 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 smallholders had no power, they still had an advocate in the form of the government of Zambia who provided leadership and exhibited greater power over all the other stakeholders.

**Proposition 5: A powerful partner’s interest and leadership in including smallholders increases the chances of smallholders being eventually included.**

Overtime the parties began to communicate and resolve their differences with little involvement of 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 the 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. According to one manager from Zambia Sugar Co., KASCOL and Zambia Sugar Co had never had any need for such a move because they always managed to resolve their differences between them. The situation was similar in the relationship between KASCOL management and the smallholders, as was pointed out by the farmer association 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 organized, 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...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 been able to bring to the attention of KASCOL management proposals for their farm sizes and payouts to be increased with positive results. Furthermore, the smallholders were able to receive information from KASCOL management concerning the sale of the shares from CDC and one of the banks. They also received advice to transform their association into a trust so as to participate in the buying of the shares. The smallholders went from relying on the government to mediate and solve problems to a situation where they could engage directly in meaningful discussions with KASCOL management to resolve their differences. An indication of trust is the increasing handing over of responsibilities from KASCOL management to the Kaleya Smallholder Trust (KAST) growers.

*“...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 current farmer association chairperson when questioned on the reasons behind transforming the association into a Trust.

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

The model provided efficient governance mechanisms – board of KASCOL, farmer representation, and contracts - to regulate transactions and to provide efficient incentives. The penalties and costs of breaching the contracts were severe. For KASCOL it would mean not getting irrigation water from the Zambia Sugar Company; for the smallholders, eviction by KASCOL from the leased land. Furthermore farmers can’t renege on their contracts; they do not own the land and irrigation was provided by the Zambia Sugar Company through KASCOL. One smallholder puts it this way:

*“When it comes to that agreement [the Cane Farmers Agreement with KASCOL] and the obligations the farmer has, we are very conscious because we do not want to get into any trouble.”*

The presence of the farmer association, much as it helped in reducing the transaction costs of KASCOL management’s dealings with the smallholders, it also helped in increasing the smallholders’ bargaining power and achieve a more balanced relationship. 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 farmers’ voice amongst them and with other minority shareholders like the Zambian businessmen and KASCOL employees. This created an environment in which the parties could continue working together and responding to mutual demands. The KAST chairperson says,

*“We are actually the four directors on the Board...I represent 25% of the shares for KASCOL, such that all the critical decisions that involve the shareholder directors, I am part of them,”*

**Proposition 7: Efficient governance creates an environment conducive to mutual responsiveness and has a positive effect on smallholders’ integration.**

From a coordination point of view, the distribution of roles and responsibilities between the parties proved to be operationally efficient. The size of operations of KASCOL provided for economies of scale which were passed along to the farmers in the form of efficient agricultural services and technical support. The efficient agricultural services that the smallholders received were evident in the results obtained. Even though 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 Zambia Sugar Co. than that from KASCOL’s own plantation (see Table 2).

**Table 2.** 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

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

Efficient coordination resulted in the improvement of farmers’ performance and sustainability. Obvious as this may seem, inefficient farming is not sustainable regardless of the characteristics of the integration model and consequently is unlikely that unsustainable farmers could be integrated in food chains.

**Proposition 8: For smallholders to be successfully integrated in vertical coordination arrangements their farming operations must, at some point in time, reach acceptable levels of performance.**

Managerial competence was a big factor in the success of the model as it affected operational efficiency at several level of the value chain. Evidence of coordination and learning to bring about efficiency and equity is present in the evolution of the model. 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. Management motivation in increasing smallholders satisfaction was based on the fact that performance of smallholders, KASCOL and Zambia Sugar are all interdependent. The smallholders are customers of KASCOL; KASCOL provides production services to the farmers and its future earnings depend on how well farmers do. Once smallholders became part owners of KASCOL they became both customers and owners of the company which increased even further management motivation to respond to smallholders needs. Arguable at this point the relationship between farmers and KASCOL management is similar to the one between management and farmers in a cooperative.

One smallholder expresses this and his satisfaction in the following way:

*“... on cane there is no loss: water is ever there; fertiliser is ever there. There is nothing like, ‘Where are we going to get fertiliser this year?’ 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 7 Ha land, growing maize, you cannot get ZMK 40,000,000, never! So in short, we are well up!”*

Similarly, an aspect of learning is observed in that over time KASCOL management changed the business arrangements to bring about more efficiency and satisfaction. Examples of this are the changes in the methods of payment and retentions. Eventually KASCOL management started to relinquish some of its previous roles and allowing the smallholders take on more responsibilities. 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 over. I do not think there are a lot that they have not taken over.”*

**Proposition 9: Skilful management, through coordination and learning, improves performance and breeds satisfaction and inclusion.**

After about 22 years of being involved in the KASCOL model, the smallholders significantly started increasing their ownership and governance role in KASCOL. This was facilitated by the willingness of all stakeholders to see this happen. 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 [KASCOL] is to give at least two thirds of the land to smallholders so that it [KASCOL] becomes just their property.”*

**Proposition 10: In an environment of social capital growth, smallholders will increase their participation and ownership.**

## **Discussion**

Previous studies of unsuccessful experiences of smallholders integration have concluded with statements like ‘smallholders tend to be relegated to the role of mere labourers because of the power imbalance between them and the firm’ (Little and Watts 1994); ‘the firm assumes all decision-making roles with the smallholders being at the receiving end without any say in what happens’ (Glover and 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 and Phillips-Howard 1997). Contrary to these studies, in the KASCOL experience, the smallholders were able to increase their voice and participation to the point of owning shares in KASCOL.

The KASCOL experience happened in an initial context where smallholders had no alternative markets for their produce; had only one major source of income; did not own the production assets; had no previous experience in dealing with big corporation, and; were involved in the cultivation of a crop that was largely capital intensive. This type of context, as reported in the contract-farming literature, although favourable to the focal company, is not conducive to successful inclusion of smallholders (Glover 1987; Patrick 2004; Porter and Phillips-Howard 1997; Sriboonchitta and Wiboonpongse 2005; Warning and Key 2002). How was it then that smallholders gained voice and ownership? The following factors explain the success of KASCOL.

### *Context*

The Zambia sugar industry, in general, and the Zambia Sugar Co. in particular, were viable enough to pay acceptable prices for the cane (Church et al. 2008) and to secure satisfactory income and profits for farmers and shareholders. The parties were not “struggling to command a share of diminishing margins within the chain” (Fischer, et al. 2007, 46).

The sugar industry requires investments in highly specific assets by all the parties involved which generates high co-dependency (Williamson 1981; Martinez 2002). 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 as the main stakeholders needed each other if they were to keep operating in the sugar industry.

The initial goals and intent of the Zambia Sugar Co., the Zambian government, CDC, and the other stakeholders, created an environment conducive to sustainability and inclusion. The Zambia Sugar Co. needed extra supply of cane for its expanded mill factory and had no extra land. The Zambian government wanted to involve poor Zambians in the sugar industry to reduce poverty. CDC had useful experience and was looking for development projects to fund. In addition, the Zambian government, which at that time had majority shareholding in Zambia Sugar Co., had greater power over the other stakeholders and used this power to provide visionary leadership and promote and support the inclusion of the smallholders.

The controlling shareholders had expressed, from the onset of the project, a genuine interest to include the smallholders in the governance and ownership structure. The smallholders were informed and aware of such intent. This expectation gave them hope and motivation to stay in the arrangement. These findings are consistent with studies (Arino and De La Torre 1998; Doz 1996; Hoffmann and Schlosser 2001) in which the initial conditions were considered to affect the success of long term relationships.

### *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 and representation. The farming contracts provided efficient incentives for the parties to work together. Although some evidence suggests that contracts may work against building trust, binding contracts tend to foster a greater sense of commitment as compared with informal agreements (Malhotra and Murnighan 2002).

The initial involvement of the Government of the Republic of Zambia in the KASCOL board contributed to protecting the interests of the smallholders and to balance power between the smallholders and the other parties. As the interests and goals of some of the shareholders and outside stakeholders changed, the composition of KASCOL board changed accordingly. At a later stage, as farmers acquired an interest in KASCOL, they gained direct representation at the board and developed their own voice. A healthy balance of power in the board was achieved.

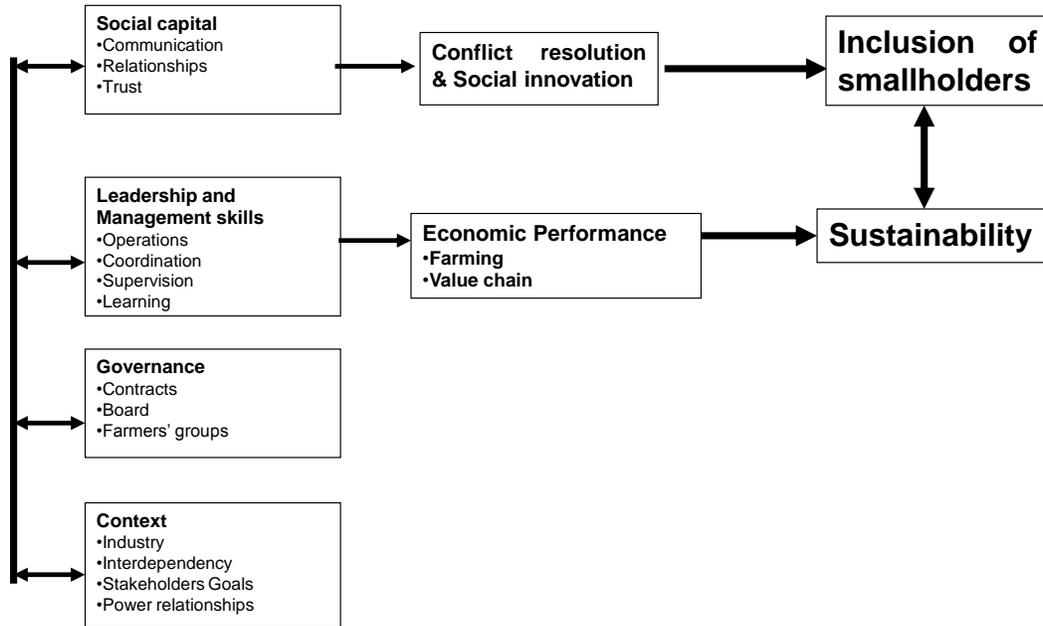
### *Management*

There was clear evidence of managerial competence and it was considered instrumental for overall satisfaction. All parties involved were clear on the role they were to play, and activities were run as scheduled. Operational efficiency is considered important to the success of any collaboration (Mohr and Spekman 1994; Monczka et al. 1998) as it ensures that the goals of the various parties are met (Pfeffer and Salancik 2003). Along the years, several changes were implemented in how KASCOL management worked with the smallholders. These changes reflected learning processes, as KASCOL management sought new ways of creating efficiency in the system as well as increasing the smallholders' satisfaction. The smallholders received their inputs as required, and the harvesting programme was according to schedule. Moreover, when it came to the field activities, supervision was available for the smallholders through KASCOL's extension service, thus ensuring that all tasks were carried out on time and as desired. The smallholders were contributing significantly to the KASCOL overall output as they were contributing over half of KASCOL's total supply to the Zambia Sugar Co. Learning and implementation of changes was also a way to nurture social capital as continuous communication and information-sharing was required. This claim finds support in Arino and De La Torre (1998), Doz (1996), and in Ring and Van de Ven (1994) who consider that learning and personal bonds mutually affect each other.

### *Social Capital*

Although the initial conditions, governance structures and managerial competence were key to the sustainability of the model, social capital was the most relevant factor affecting the integration and inclusion of the smallholders. Social capital can be assessed in terms of the presence and nature of personal relationships, communication, and trust (Tsai and Ghoshal 1998) and (Nahapiet and Ghoshal 1998). There was evidence of a very open communication between the parties in KASCOL. The fact that the first smallholders to join the model were ex-employees of KASCOL, and that these same farmers were majority in the first farmer association executive, helped to keep the communication lines open and to continue building personal bonds. The initial personal bonds facilitated communication and the sharing of information (Adler and Kwon 2002; Tsai and Ghoshal 1998), and vice-versa, communication and information sharing improved personal relationships. This finding is consistent with the claim by Ring and Van de Ven (1994) that continuous collaboration and interactions result in closer personal bonds and ultimately to more constructive ways of conflict resolution as suggested by Monczka et al.(1998) and Mohr and Spekman (1994) which over time increases the level of trust (Adler and Kwon, 2002; Cohen and Prusak, 2001; Fischer et al. 2007; Tsai and Ghoshal 1998).

Figure 1 presents a theoretical model to explain the dynamic interdependency of the variables at play in the KASCOL model.



**Figure 1.** Factors affecting sustainability and inclusion in the KASCOL model

## Final Reflections

The KASCOL model, so far, constitutes an example of successful smallholders’ integration in agri-food value chains. The context of the model, its governance structures, managerial competence, and social capital were all found to be significant determinants of sustainability. Without any of them it is unlikely that an initiative like the one studied here could have succeeded. But 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 but as a result of senior stakeholders purpose, efficient governance structures, and skilful management and leadership. Therefore, the overall managerial implication of this study is that agro-industrialisation projects seeking to include smallholders must not only get governance and management right but must get the required levels of social capital right.

Several questions remained to be answered and require further investigation. Why would the initial shareholders want to sell shares to farmers and at what price in models like this one? In the KASCOL case this happened because the Government of Zambia, established it as a condition for providing land for the project, and because the banks, after collecting the outstanding debt, decided to sell their share. The share pricing mechanism used in this case was not investigated. What seems clear is that, in any case, for an effective transfer of ownership to take place, some sort of covenants must be in place early on to ensure that the transfer to farmers takes place under desirable conditions.

Although the KASCOL model seems in principle similar to a Build-Own-Operate-Transfer (BOOT) model, for effective integration to take place much attention should be paid to building not only the production and marketing capabilities of the project but most importantly the human and social capital capabilities. Also the timing, phasing and degree of transfer to farmers should be subject to careful consideration. In KASCOL transfer of ownership too early to farmers may have ended up in unwanted consequences. It took almost 25 years of fostering mutual trust, knowledge and communication for partial ownership transfer to happen. At this stage the majority ownership, more than 70% is still held by outside investors. It remains to be seen what will happen if and when farmers might hold a majority stake.

It is not clear from the field work if formal or managed mechanisms were in place for improving communication and for conflict resolution. One of the weaknesses of retrospective research methods is that memories are fuzzy and that interviewees, at the time when such events happened, may have not paid attention to events or phenomena that what we, as researchers now, consider relevant. This question should be further explored.

An area for future research would be to look at if and how the change in ownership of KASCOL, which took place in 2005 and 2006, will have any long term effect in the future sustainability of the model. Our questioning to the interviewees was not around how recent events of integration affected overall performance but how during 25 years the integration came to be. What we know is that KASCOL has so far improved the wellbeing of farmers and has increasingly started integrating them in ownership and governance positions.

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