

**Understanding institutional arrangements:
Fresh Fruit and Vegetable value chains in East Africa**

Paper to be presented at the ISNIE 2008 conference, Toronto

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May 2008

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Key words:

Institutional arrangements; Africa; poverty, marketing, producer organisation, contract farming, transaction costs

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Glossary

BoT	Bank of Tanzania
CF	Contract farming
CBO	Community Based Organization
CU	Cooperative Union
DO	District Office
EPOPA	Export Promotion of Organic Products from Africa
FFV	Fresh Fruits and Vegetables
MA	Market Association
MVIWATA	Mtandao wa Vikudi vya Wakulima Tanzania (Swahili for National Network of Farmers' Groups in Tanzania)
MVIWAMO	Mtandao wa Vikudi vya Wakulima Moshe (MVIWAMO branch for Moshe)
NGO	Non-governmental Organisation
PO	Producer Organization
ROSCA	Rotating Saving and Credit Association
SACCO	Savings and Credit Cooperative
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TSh	Tanzanian Shilling (rate of December 2007: 1 €= TSh 1,714)

Acknowledgements

We would like to thank the Dutch Ministry of Agriculture, Nature and Food Quality for funding this research. We would further like to thank all the people we interviewed in 2007 for their time and valuable information.

1 Introduction

Agriculture is receiving increasing attention as an instrument for growth, especially with the World Development Report 2008 (WDR) titled “Agriculture for Development” (2007b). In that report institutional innovations are seen as key to achieve not only agricultural growth, but also to include poor smallholders in this growth. These institutional innovations are expected to be able to overcome various market failures, including missing or incomplete input and output markets, factor markets (including financial markets) and insurance markets. The Report sees a particular important role for the “third sector”—communities, collective action, and NGOs— in overcoming some of the market and state failures, with special attention for producer organisations (POs, which can be defined as an agreement among farmers to coordinate some activities, such as jointly purchasing inputs or delivering produce to clients) as fundamental to reducing transaction costs in markets, achieving market power and raising farmers’ voices in national and international policy forums. More pointedly, Dorward et al. (1995) argue that current emphasis in research and policy discussions on the institutional environment (such as property rights, regulations, policies, social norms, etc.) in Africa is at the expense of sufficient attention to institutional arrangements¹. They call for more investigation of arrangements, especially of those, such as producer organisations, that do not fit the textbook model of competition and exchange among relatively small market players.

In this paper we examine the case of institutional arrangements for marketing of farm produce in the fresh fruits and vegetable (FFV) sector of East Africa, with specific focus on Tanzania. FFV constitute high-value products that are increasingly seen as offering important growth opportunities for farmers in many developing countries. A concern for policy makers and other stakeholders involved in development efforts is thus how marketing arrangements for farmers’ sale of fresh vegetables can be supported in order to promote pro-poor growth? Here, we aim to contribute to the search for answers to the question, but limit ourselves to a more modest objective, given how little these arrangements have been systematically documented and analysed.

The **principal research question** addressed in this paper is how alternative institutional arrangements for marketing fresh vegetables in Tanzania compare in terms of transaction costs, and how any differences are related to characteristics of the product, market structure, supply chain, quality requirements or farmers. The purpose of such a comparison is to develop a better understanding of how improvements in institutional arrangements come about and potentially how this process can be supported. We are thus less interested in trying to determine which arrangements are most efficient in a given situation, but more in what the constraints are to improvements within these arrangements. Such improvements could imply a shift to another arrangement but improvements within existing arrangements are equally interesting. Indeed we shall see that they may even be more interesting.

Two alternative institutional arrangements for marketing fresh vegetables in Tanzania and other East African countries, can now be observed, next to the ‘default’ option for most farmers of spot market transactions: (i) producer organisations (POs) and (ii) contract farming (or combinations of the two), which is important for high value, high quality crops (marketed to supermarkets and export markets).

POs are currently seen by many NGOs donors as an important tool for strengthening market access of smallholder farmers, thereby increasing rural income, enhancing smallholder competitiveness and reducing poverty (IFAD, 2003; Stockbridge *et al.*, 2003; Ton *et al.*, 2007; World Bank, 2007b).

Aside from emphasis on innovations in institutional arrangements, the WDR also acknowledges that the state is important in confronting the extensive market failures and uncertainties in agriculture. The report recognizes thus that agricultural development can be constrained by good governance; in other words improvements in the institutional environment could improve growth prospects in the agricultural sector. In the current paper, we are also interested in how both the relative and absolute level of transaction costs are affected by elements of the institutional environment such as property rights, contract law, and even informal (i.e. social) norms governing behaviour.

This study can be seen as contributing to the research agenda identified at the most general level for the agricultural sector by Masten (2000), Ménard and Valceschini (2005), and Sykuta and Cook (2001). These questions have been posed in the African context by Dorward *et al.* (2005) and Fafchamps (2004) who emphasises how little is known about the operation and development of markets in Sub-Saharan Africa.

1.1 Approach and outline of paper

This paper is comprised of three parts. First, theoretical literature is used to establish a framework with which we could structure our research and which would help us to understand institutional arrangements. This framework is described in chapter 2. Chapter 3 then describes which institutional arrangements can be expected on the basis of the framework. Second, an empirical study was done in Tanzania to gather data that could highlight several issues present in marketing FFV by small-scale farmers and the different institutional arrangements that they use. This is described in chapter 4. Third, the extensive literature that exists on export marketing of and value chains for FFV in East Africa (Kenya, Uganda, Ethiopia) was reviewed. Government policies in these countries have been different, and have also contributed to a different institutional environment. We will review these to broaden the lessons learned in Tanzania. This is described in chapter 5. Chapter 6 concludes. Together, the three parts lead to a better understanding of the existing institutional arrangements in use in East Africa to market FFV.

The empirical study was conducted through semi-structured interviews. During two weeks, in-depth interviews were held with 47 different stakeholders in the fresh fruit and vegetable chain, ranging from NGOs, government officials, farmers, traders, representatives of POs and contractors of fresh fruit and vegetables (large scale farmers and processors). An overview of the stakeholders can be found in Annex 2. For the interviews a list of questions as well as a list of topics for further discussion was used. Not all items were relevant for each interview, and a selection was made where necessary. The checklist can be found in Annex 1. The interviews in Tanzania were conducted in different parts of the country (Figure 1).

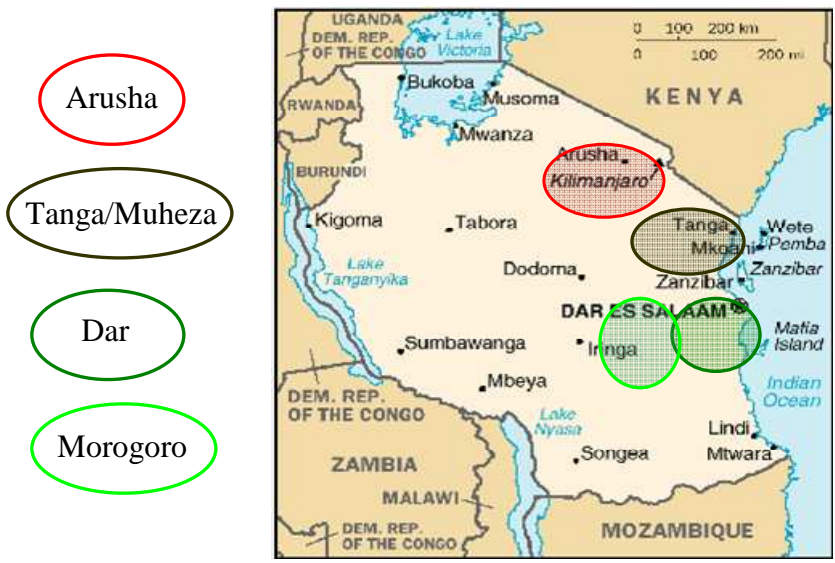


Figure 1: Study area Tanzania

2 Understanding institutional arrangements

In this paper we want to understand why certain arrangements to market fresh FFV exist and how they are determined by transaction costs, characteristics of the production process and product, market structure, supply chain, quality requirements or farmers. We also want to understand how changes in such arrangements come about, particularly in the form of reduced transaction costs, in order to identify possibilities of encouraging this process. In order to do this, we will outline a framework with which we can analyse these elements for Tanzania. We will first outline how we define the institutional environment within which institutional arrangements take place. We then focus on transaction costs, what they are and which factors contribute to their absolute and relative size. In the section on Tanzania we will use this framework to verify if and to what extent these elements exist and can explain the marketing arrangements we observed for the FFV in Tanzania.

2.1 Institutional arrangements and the institutional environment

Institutional *arrangement*² refers to a set of rules or agreements governing the activities of a specific group of people pursuing a certain objective. Different types of examples include a contract (such as simply to exchange goods, or a sharecropping agreement between landlord and tenant farmer), a producers' organisation (an agreement among farmers perhaps to jointly purchase inputs or deliver produce to clients), and so on. Institutional arrangements thus involve agreements to exchange or coordinate goods or services (such as labour). Concluding and enforcing such agreements entails the expenditure of resources, referred to as transaction costs, which are discussed in more detail in the next section.

The institutional *environment* consists of the broader socio-economic framework within which different institutional arrangements take place, such as market transactions (agreements to exchange goods and services), or organizations (formal groups involving individuals working towards a common purpose). Figure 2 (based on Williamson, 1998) shows institutional arrangements in the middle of various formal and informal elements of the institutional environment.

In considering the institutional environment, a distinction is often made between *formal* and *informal* institutions. Formal institutions are “embodied in constitutions, laws, the structure of state decision (the number of veto players and their mode of selection) and regulations enforced by judges, courts, police, bureaucracy, and the like” whereas informal institutions are “norms of conduct, perhaps historical traditions or religious precepts” enforced by custom or habit. (Keefer and Shirley, 2000; cited in Williamson, 2002).

Within the various components making up the formal institutional environment, differences in terms of applicable scope and specificity are readily apparent. For example, legal frameworks, especially property and contract laws and their supporting institutions, have a fundamental and broad significance for the cost and uncertainty associated with exchanging goods and services in general. On the other hand, government macroeconomic policy, which may involve regulations concerning taxation, government spending, monetary policy and exchange policy, is also to be viewed as part of the institutional environment. But changes to these can be frequent and seen as influencing relative market prices in the economy.³

Legal institutions are in fact an essential component of the institutional environment with respect to underpinning economic growth and specialization, though this does not imply that there is a blueprint or single approach. Legal rules can foster efficient coordination and contracting by providing for:

1. Clear criteria for enforcing agreements
2. Effective means of adjudicating and resolving disputes
3. The functioning of information networks that facilitate screening of potential partners and policing of debtors and obligors and
4. A reasonably stable and honest policy environment that protects transactions against predation and erosion of value (2001: 3).

These mechanisms can act either directly, for example, by enabling parties to take disputes to court or to arbitral bodies; or indirectly, for example, by signalling the likelihood that state-provided rules and adjudication systems will yield a particular result within a reasonable time. This indirect influence helps set clear terms for party behaviour, for bilateral negotiations between the parties where problems arise, or for dispute-resolution by informal means.

A weak institutional environment, particularly in terms of legal frameworks, leads to difficulties in enforcing impersonal contracts, and rent-seeking behaviour by politicians, bureaucrats, criminals and the private sector. All these factors consume resources and inhibit economic and technological development, which inhibits access to markets and market development. Low levels of economic activity lead to thin markets, high transaction costs and risks, and high unit costs for infrastructural development. This is one way of describing the 'low level equilibrium traps' afflicting the poor in many rural areas within low-income economies (Dorward *et al.*, 2004b; Kydd and Dorward, 2004).

A well-functioning institutional environment is clearly important for economic development. But what explains why poorer countries have underdeveloped institutions, which institutions much function effectively if countries are to develop, and what countries can do to improve their institutions are all questions that are still largely open (Shirley, 2003). This paper aims to help fill this gap in knowledge, with particular attention to the FFV sector. The discussion above has identified the important role played by the institutional environment in the determination of transaction costs. The next section addresses this concept in more detail.

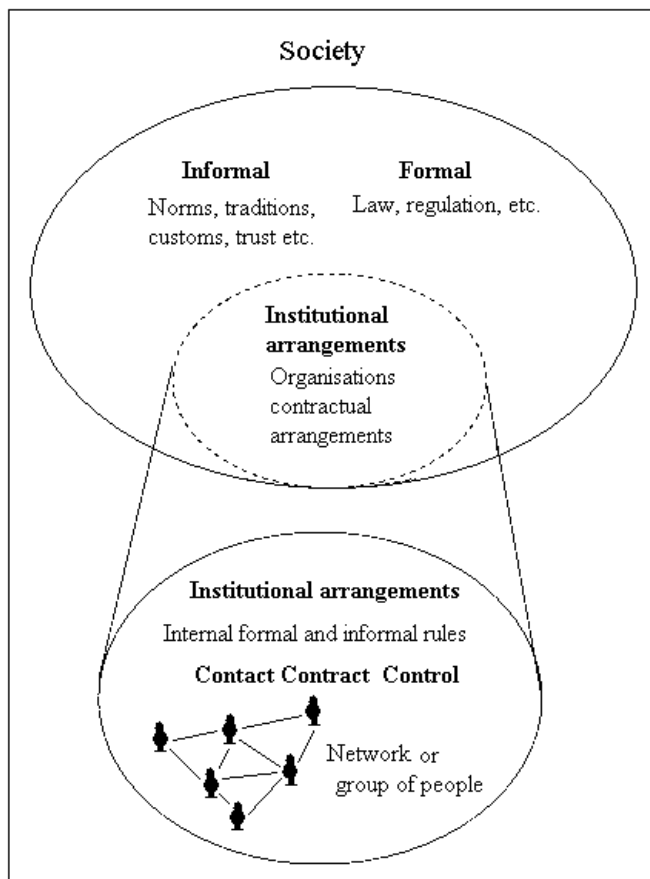


Figure 2: Different levels and components of institutions

2.2 Transaction costs

Transaction costs are the resources expended in exchange relations, in other words, to agreements to exchange goods or services (i.e. buyer-seller relations). Transaction costs consist thus of the efforts devoted to finding a market, negotiating, signing a contract, controlling contract compliance, switching costs in case of premature termination of the contract, and any lost opportunities. In general, three types of transaction costs related to commercial exchange can be distinguished:

1. **Search and information costs:** someone considering a certain transaction must search for a suitable party with whom to trade and this search process involves costs. These costs may consist of visits to possible traders (e.g. in markets), communication (e.g. telephone calls), looking up prices, testing and quality control etc. Acquiring information plays an important role.
2. **Bargaining and decision costs:** these costs relate to time and (legal) advice that is put into bargaining and negotiating the agreement between parties. This agreement can be put into a formal (written) contract or an informal (verbal) deal. Again information plays an important role as some parties may have information that they do not disclose (called asymmetric information).
3. **Supervision and enforcement costs:** these costs are related to time put into and costs made to monitor whether the agreement is implemented, to avoid opportunistic behaviour by parties, and to enforce agreements. Information also plays here an important role, as monitoring consists basically of gathering information, which may be costly. Parties may

have an incentive to hide their actions and the fact that they are not complying with the agreement made.

These three types of costs correspond with stages in undertaking an exchange relation, respectively termed **contact**, **contract** and **control** (C-C-C) depicted in Figure 3 (North, 1990; Furubotn and Richter, 1998).

A large part of transaction costs consists of the expenditure of time on the part of buyers or sellers. And this time (or other resources) is generally devoted to acquiring information. In many cases, the acquisition of such information serves to reduce the extent of uncertainty the buyer or seller confronts.

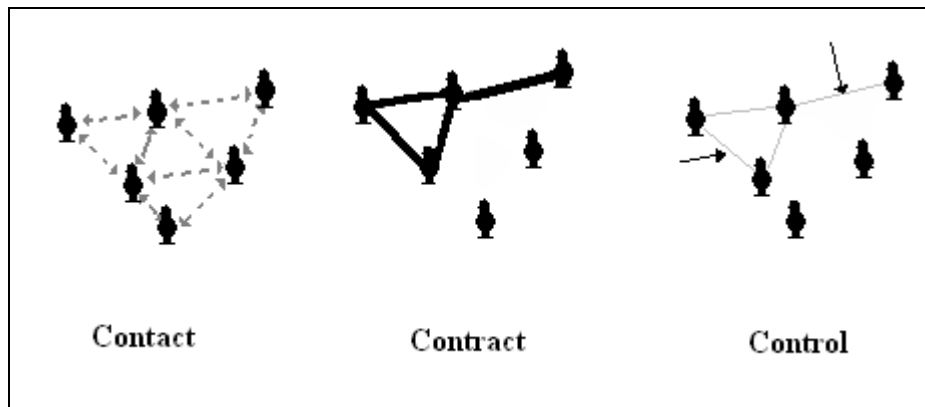


Figure 3: Three components of institutional arrangements

The essence of transaction cost economics (TCE) is that rational economizing on transaction costs by buyers and sellers (bilaterally or unilaterally) supports the use of the most efficient institutional arrangement. Institutional arrangements can be classified on a continuum ranging from spot market to hierarchy (or vertical integration). In between these extremes, many hybrid forms can be found⁴. Contract farming is a typical hybrid. Shifting from spot market through contracts and other hybrids to hierarchy means reducing incentive intensity, strengthening administrative control, reducing autonomous adaptation and strengthening coordinated adaptation (Williamson, 1991a). For a given type of exchange, TCE proposes that the choice of institutional arrangement is determined by the size and distribution of the transaction costs.

TCE is intended to be complementary to “traditional” economics with its focus on production costs. The total costs of an economic activity are made up of production costs (depending on technology and inputs used, among other factors) as well as transaction costs, which are intended to provide an additional concept for explaining the organization of economic activity. But these two cannot be completely separated, production costs depend also on how the activity is organised, and transaction costs usually also have to be considered in terms of specific products and technologies.

There are thus limits but also challenges to applying TCE (Milgrom and Roberts, 1992). One of these is empirical in nature. Transaction costs are difficult to specify, measure and compare with more conventional types of costs. Researchers have therefore emphasised the importance of undertaking comparative analyses where different arrangements can be found for comparable types of transactions. Transaction costs can then more easily be analysed in a relative, as opposed to absolute, manner. But still certain hypothetical arrangements often

cannot be observed, and the supposition is then made that transaction costs of such arrangements must be higher. But if production and transaction costs cannot be clearly separated in such instances, then the explanation does not lie only in transaction costs. In general, this problem does not arise in the production and marketing of FFV which is the focus of this paper. Where we do not observe certain institutional arrangements, we thus consider the merits of an argument based on transaction costs relative to any other plausible explanations for why certain arrangements are not found.

The difficulties in measuring transaction costs (or separating them from other costs) can also lead to rather imprecise statements that ascribe all explanations to transaction costs. One strategy for avoiding this is to use a systematic approach to classifying different types of transaction costs as well as their determinants. Above we have distinguished between transaction costs at three stages of exchange and in the next section we systematically present the main factors influencing the relative size of transaction costs.

Another limitation to TCE, in its simplest form, is the proposition of the theory that efficient institutional arrangements minimize transaction costs, and that such efficient arrangements will be chosen (Milgrom and Roberts, 1992). Transaction costs are incurred though by both parties to a transaction. Each of these can be expected to pursue its own objectives, including minimizing its costs. But this is not necessarily the same as their trying to minimize the total of their costs. This may well be the case when the transacting parties have plenty of opportunity to bargain over additional payments and conditions, and equally importantly, where the parties' behaviour is not influenced by differences in wealth or resources. But such assumptions are clearly not applicable to many situations in the context of developing countries. There, the organization of economic activity is often clearly characterized by larger inequalities between individuals in terms of access to various types of assets (financial, human capital, natural resources, etc.). This can support anti-competitive behaviour and the maintenance of dependency relationships, which may even be considered to be exploitative. For example, control of market facilities or information channels by traders or retailers might reduce the possibilities for potential competitors (constituting barriers to entry). This could allow the former to favour the use of institutional arrangements that increase their net benefits and discourage more efficient forms that would threaten their interests.

There may thus be large overall inefficiencies in the institutional arrangements. Understanding where such constraints lie and how efficiency gains are to be had, is thus a key ingredient in looking for recipes for economic improvement, including for those in unfavourable dependency exchange relationships. Douglass North (1990) has demonstrated how an understanding of both the extent and distribution of transaction costs is an important part of explaining economic development.

Finally, Dorward and Kydd (2004b) propose that the purpose of institutional arrangements is not to minimise transaction costs as such but to minimise transaction *risks*. For various reasons, parties in an exchange face risks that individual transactions will fail, with the loss of any investments in that transaction. They may therefore need to incur costs to protect themselves against such transaction failure. Dorward and Kydd view transaction costs as necessary investments. Their focus is thus not on reducing transaction costs but on reducing transaction risks and finding the most appropriate institutional arrangement that will reduce these risks.

In summary, we seek to understand how different sources of transaction risks and associated transaction costs, including their distribution between buyers and sellers, influence the institutional arrangements observed. In so doing, we do not suggest that these arrangements are necessarily the most efficient ones available. Indeed, if anything, we hope to shed light on how these arrangements could become both more efficient, as well as more equitable.

2.3 *Factors influencing relative transaction costs*

Two behavioural assumptions on which TCE relies are bounded rationality and opportunism. Opportunism extends the assumption of self-interest. Opportunistic behaviour includes disguising attributes or preferences, distorting data, concealing issues and otherwise confusing or deceiving partners in exchange. Combined with asymmetric information it becomes very costly to distinguish opportunistic from non-opportunistic behaviour *ex ante*. Bounded rationality implies that agents experience limits in formulating and solving complex problems and in processing (receiving, storing, retrieving, transmitting) information. The main consequences of these behavioural assumptions for economic organisation are that all (complex) contracts are unavoidably incomplete and thus many complex incentive alignment processes cannot be implemented, and that relying on “contract-as-promised” is fraught with transaction risks (because of opportunism) (Williamson, 1981; Williamson, 1991b). These assumptions provide the behavioural basis for factors influencing transaction costs.

There are various classifications of the factors influencing transaction risks and the size of transaction costs (see, for example). In this paper, we follow a simple approach in which transaction costs are affected by four kinds of attributes of the transaction in question⁵:

1. Asset specificity (the specificity of investments required)
2. Uncertainty
3. Difficulty of measuring performance in fulfilling the terms of an agreed transaction
4. The need for coordination with other transactions with other actors

These factors are discussed in turn below. The relative size of transaction costs is then used in chapter 3 to explain the use of alternative institutional arrangements for organizing exchange, ranging from market exchange to hierarchies (i.e. firms or vertical integration) with various hybrid forms such as contract farming or producers’ organisations.

2.3.1 *Asset specificity*

Asset specificity refers to the extent in which investments made by one or both parties to a transaction are specific to that transaction. This means that such investments have less value for alternative transactions with other parties. For poor rural areas, asset specificity is mostly the result of thin markets (i.e. few alternative transaction possibilities) (Dorward and Kydd, 2003). An agreement to sell a specific product to a specific buyer involves a certain amount of risk for the producer in case the buyer fails to buy the product or wants to renegotiate the price. Once the investments have been made the producer is “locked into” the transaction. Both parties may actually be reluctant to enter into an agreement in the first place because of these risks. These problems amount to a “hold-up” problem, which means that due to the risk of becoming exploited, economic actors refrain from making otherwise profitable investments. To avoid problems with asset specificity, parties may (a) refrain from making specific investments, (b) seek safeguards for the agreement, that is, seek enforcement

mechanisms, and (c) will enter into even more personalised relationships (thus relying on trustworthy relationships).

Three types of asset specificity are relevant for agricultural products and each is discussed below: dedicated assets, temporal specificity and site specificity (cf. Masten, 2000)⁶.

Dedicated assets refer to investments in production techniques made for a particular customer. These investments may not be completely specific to that customer, but they cannot generate the same market value when used for another customer. For agricultural production this means that the buyer has specific requirements such as the type of product, specific characteristics (taste, colour, quality), or production process (e.g. organic, Eurep/GlobalGap certified), for which the producer has to make certain investments (e.g. seeds, fertiliser etc). For example, a farmer selling tomatoes to a trader may not have made many investments with only a certain transaction in mind. The farmer may have purchased some inputs and possibly some equipment. Markets with fewer options to sell will increase asset specificity. A farmer selling organic pineapples to an exporter may well have invested in certain facilities and training in order to meet the requirements for certified organic pineapple production. These investments have less value for transactions other than with the pineapple exporter, particularly if markets are thin and there is only one potential exporter.

There may also be a two-way nature to this kind of asset specificity. If farmers fail to produce the specific crops (e.g. do not completely comply with Eurep/GlobalGap standards), the buyer cannot sell them on and may have to break his contract with his customer. There is a potential two-way hold-up problem. This may induce producers and buyers to establish close personal relationships and well-specified contracts.

The second type is *temporal specificity* in which timing of supply is important. The producer might have to make certain investments to be able to deliver on a specific time. For agricultural production this may involve investing in irrigation, greenhouses, cold storage etc. For many agricultural products such as FFV, temporal specificity is related to the product's perishability, when the product is ripe it needs to be sold. In this sense, the farmer's investment in the production process is specific in very thin markets (few potential traders available). This situation may also arise when a trader can enforce an exclusive trading relationship. Farmers can thus be in a disadvantaged position, compelled to sell against a lower price because if they wait for a better price, their produce will be unsellable. The potential for hold-ups is thus greater, implying higher transaction costs to cope with this. These may be expended, for example, in the development of personal relationships with traders.

The final type is *site specificity*, referring to transactions for which location of production is important. Some fruits and vegetables only grow well in certain locations, which may be far away from consumer locations. This means an increased role for traders such as collectors as well as transporters. Buyers are restricted to specific areas to source produce. Information and coordination costs increase with distance. Buyers may therefore choose to establish personal relationships with producers in these areas so that they are ensured of produce after they have incurred (transport) costs, which can be seen as fixed investment. If the seller has already sold to someone else, the buyer cannot recuperate this investment. This hold-up problem increases when there are many buyers and few sellers. However, the reverse may also be true. A producer located in a remote location may only be able to sell produce against a very low price (local supply being abundant) and therefore depends on traders from outside.

In the extreme case of no asset specificity, the product that is produced by the farmer is completely standard and can be sold to various buyers in various markets, one would not expect any personalised relationships between seller and buyer, nor any specific agreement (or contract) on the transaction. The expected institutional arrangement would be a spot market, with many anonymous buyers and sellers. Some staple agricultural products come close to this extreme case.

2.3.2 *Uncertainty*

Uncertainty is a basic feature of agricultural production. The amount and quality of output that will result from a given bundle of inputs are typically not known with certainty, due to uncontrollable elements, such as weather. The effects of these uncontrollable factors are accentuated by the fact that time itself plays a particularly important role in agricultural production, because long production lags are dictated by the biological processes that underlie the production of crops and the growth of animals. Thus markets for agricultural products are often characterised by volatile and possibly cyclically fluctuating prices. In the face of such uncertainty, concluding agreements or contracts is difficult; in other words, transaction costs are high, because renegotiating and adaptation might be required when unforeseen events emerge (Williamson, 1979).

2.3.3 *Difficulty of performance measurement*

Transaction costs are also affected by the extent to which it is difficult for one contracting party to measure the performance of the other party in fulfilling the terms of the contract. When measuring performance is difficult, people commonly arrange their affairs to make measurement easier or to reduce the importance of accurate measurements (Milgrom and Roberts, 1992:32).

Usually performance measurement is not a problem with fruits and vegetables, as quantity and quality is relatively easy to determine. But some characteristics may not be easily determined, such as how the product was produced (e.g. without pesticides in the case of organic production). These types of transaction thus involve higher transaction costs.

As with asset specificity, the strategies for dealing with difficulties of measuring performance also involve the use of more elaborate agreements, in particular self-enforcing contracts. In such contracts, usually called relational contracts, the parties have economic and social incentives to honour it in all contingencies. The self-enforcement is based on trust and reputation. Trust is built up by repetitive interaction, which generates information about the trustworthiness of the trading partner. The repetition of short-term contracts often develops into what the contracting parties interpret as a long-term contractual relationship. The trust that is built up in the repetitive bilateral relationship has been called relational trust. The second mechanism that makes informal contracts self-enforcing is reputation. The basic idea is that if party A breaches the contract, party B will (unilaterally) take action to damage the reputation of the breaching party, for instance by informing third parties about the untrustworthiness of the party A, thereby reducing the opportunities for future trade by party A.

2.3.4 *Coordination (connectedness to other transactions)*

Transactions usually do not take place in an isolated manner and are often dependent on other transactions in the supply chain or in the sector (see Kydd and Dorward, 2004; Dorward *et al.*, 2007). For example, producers first need to procure inputs (cash, seeds, fertilisers) before they

can start producing and selling. In developing countries, input markets may be relatively undeveloped, inputs are not available at the right time, in the right quantities or at the right quality. The efforts expended to coordinate these various transactions can also be viewed as a form of transaction cost (Milgrom and Roberts, 1992).

Another example of connectedness among agricultural transactions is manifested by the use of standard weights and measures which effectively reduce the costs of coordinating otherwise unrelated transactions by a range of actors. The transaction cost of selling a product in a given market is affected by whether or not buyers and sellers use a commonly accepted set of weights, and this will also affect the cost of transacting between farmers and traders.

2.4 Summarising our approach

The issues that have been discussed above will form the structure with which we will analyse institutional arrangements for marketing FFV in East Africa. Together they constitute our approach and can be summarised in three main questions:

1. To what extent can different institutional arrangements be explained as a solution to high transaction risks resulting from the following factors (see Figure 4):
 - a. Asset specificity
 - b. Uncertainty
 - c. Performance measurement
 - d. Coordination requirements
2. Which institutional arrangements are observed for marketing FFV?
 - a. What is the way in which contact is established between the farmer and purchaser?
 - b. What does the contract (agreement) entail?
 - c. How is the agreement monitored and enforced?
3. How has the institutional environment (including government policies) influenced the institutional arrangements?

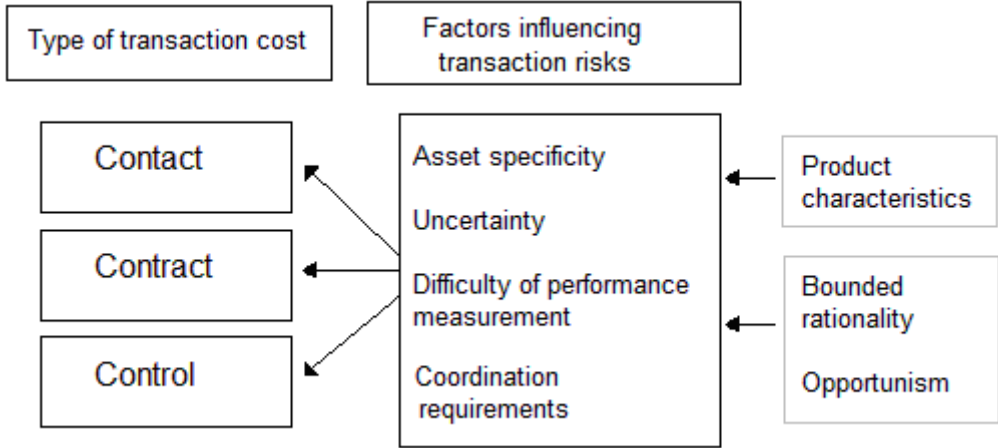


Figure 4: Types of transaction costs related to determining factors

We will first apply the first question above to different institutional arrangements which will give us an indication of what one would expect to see. This is done in the next chapter (3). The second question has been addressed in the case of FFV sector in Tanzania. We look therefore in the subsequent chapter (4) to see whether our expectations on the institutional arrangements put forward in chapter 3 were correct, and when not, what the reasons might be. The third question is addressed by comparing Tanzania with Kenya, Uganda and Ethiopia. These four countries have pursued different policies in the past, and also have different institutional environments. With this comparison, we attempt to provide an indication on how these policies and institutional environments have affected the FFV chains in East Africa (chapter 6).

3 Institutional arrangements explained

This chapter describes the various institutional arrangements for marketing of FFV and explains their occurrence in terms of transaction cost arguments, building on Chapter 2. We distinguish different institutional arrangements along a continuum with spot markets at one extreme, hierarchy at the other, and hybrid forms in between (Figure 5). These arrangements can be described by a number of characteristics of the transaction: (1) relationship, which varies from anonymous to personal; (2) coordination, which ranges from atomistic to integrated; (3) duration/iteration, which ranges from short/once to long/repetitive; (4) formalization, which ranges from no formalization to fully formalized. At the one extreme are spot markets in its purest form: transactions are characterized by anonymous relationships, atomistic coordination, short term execution, no formalization, and once-off exchange. Spot markets in this pure form hardly exist as most market transactions are taking place between persons that know each other and trade repetitively with each other.

A hybrid arrangement combines elements of market and hierarchy, more particularly it combines the coordination/governance mechanisms that are dominant in markets (i.e. price) and hierarchy (i.e. authority). Under a hybrid arrangement parties to the transaction are still motivated by monetary incentives (prices), but are restrained in their individual decisions because they have transferred part of their decision rights to the other party. Contract farming (CF), producer organisation (PO) or a combination of the two (PO+CF) can be considered as hybrid institutional arrangements. Both in a PO and under CF the producer has renounced part of her individual decision rights; in the PO she has to comply with the rules jointly agreed to, and under CF she has to comply with the agreements of the contract. Placing PO and CF on the continuum from spot market to hierarchy, we can say they involve personal relations, that coordination is partly integrated, that duration/iteration is variable: long + repetitive for PO, and short + repetitive for CF, that formalization is present (membership of a PO can be considered as a contract).

Institutional Arrangements						
Typology						
TCE	Market		Hybrid			Hierarchy
Detailed typology	Pure Spot Market (SM)	Personalized Market (PM)	Multilateral Contracting (MC)	Bilateral Contracting (BC)	Equity Participation (EP)	Vertical Integration (VI)
<i>Examples</i>	<i>Auction</i>	<i>Preferred Supplier</i>	<i>PO</i>	<i>Contract Farming</i>	<i>Joint Venture</i>	<i>Firm</i>
Characteristics						
Relationship	Anonymous	Personal	Personal	Personal	Personal	Personal
Duration / Iteration	Once-off	Repetitive	Repetitive	Once-off / Repetitive	Repetitive	Repetitive
Formalization	No	No	Yes	Yes	Yes	Yes
Coordination of activities	Individual	Individual	Multilateral	Bilateral	Bilateral	Unilateral

Figure 5: Characteristics of different institutional arrangements

3.1 Spot markets

Spot markets can be seen as the ‘default’ marketing option for small rural farmers. Fafchamps (2004:9) observes that “markets play a paramount role in Africa, arguably more so than in developed countries”⁷. There are usually many intermediaries and most transactions are very small. The market participants are either individuals or very small firms (i.e. they are atomistic). In a pure spot market, no personal relationships are developed. The transaction is executed “on the spot” and the three phases of a transaction (contact, contract and control) are executed immediately. Note that there does not have to be a physical marketplace. The trader will contact the farmer (or vice versa), inspect her products, negotiate a price, seal the deal, pay and collect the products all within a few hours or less. In such a pure form of market transaction, transaction costs are very low for both parties.

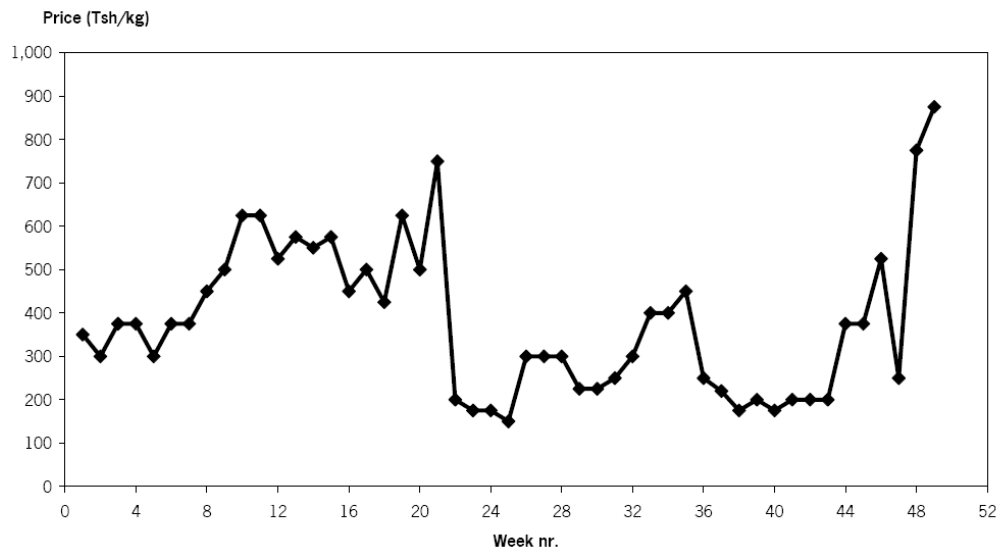
In reality, markets in Africa are actually characterised by very high transaction costs (Fafchamps, 2004; Kydd and Dorward, 2004) and are far away from the theoretical ideal-type spot market (Jaffee and Gordon, 1992). Evidence collected in Africa –and elsewhere– suggests that input and output markets, as well as factor markets (e.g. for labour or credit) are beset with informational problems of moral hazard and adverse selection⁸, as well as with contract enforcement problems, that all shape economic exchange and determine how efficient markets are (Bigsten *et al.*, 1999). In this section we will discuss, using Figure 4, why there are such high transaction costs, what factors play a role, and what (organisational) solutions market agents have found to lower transaction costs.

Often, FFV only grow under very specific agro-climatic conditions, which limits the area where they can be grown and these areas may be removed from main markets (e.g. in the capital city) and consumers. The transaction costs, particularly for traders, involve the time obtaining information on the likely supply in terms of quantity and quality (has it been a good season or not), which may involve travelling to the production area several times. Establishing personal relationships may therefore be advantageous to traders – they can then call farmers by mobile telephone to check progress. Securing supply may be difficult when there are many buyers but few sellers and traders may prefer to secure an agreement in advance to assure supply. Thus within spot markets, not all transactions are characterised by impersonal trade.

Because the coordination task is complex (sourcing different types and quantities of FFV from different, remote location to different markets, traders operating in the main markets usually employ or contract other actors to contact farmers, gather information on supply, quality and prices, purchase, inspect, pack and transport goods. This can result in a long supply chain involving many middlemen and other actors such as transporters, farmer-collectors, packers etc.

In spot markets FFV, uncertainty and seasonality of production is reflected in pronounced price and quantity variations (see Figure 6 for an example). Due to climatic variability the quality and quantity of production cannot be accurately predicted and therefore the buyer needs information to form expectations on the likely supply, so that he can match it with demand and base price projections on this. When harvests for a certain product are likely to be bad, securing supply becomes more important. Price fluctuations reflect this uncertainty.

Figure 6: Price of tomato at Kilombera market in Arusha, 2005.



Source: (Wiersinga and Jager, 2007)

Transactions in FFV spot markets are also shaped by the difficulty in monitoring performance. Information asymmetry supports opportunistic behaviour by traders, particularly when distances between production areas and main consumer markets are greater. Information about consumer preferences, prices on main markets may not be readily available for (remote) farmers, and obtaining them may be very costly. Thus traders having this information can decide not to share it with farmers or provide farmers with misinformation (e.g. state lower prices than those in main markets, not provide information on consumer preferences with respect to grades or product characteristics). The mobile phone has lowered this asymmetric information and other systems such as providing bus drivers with relevant market information are also being tried out in various developing countries.

As a result of these difficulties in checking performance, more personal relationships may form in spot markets with traders and farmers entering into (informal) agreements. But there is always the possibility of one of the parties not complying: a farmer may sell to another trader who offers a higher price or a quick sale, or a trader may purchase from another farmers for a lower price. When perishable produce such as FFV are involved and markets are thin, such breaches can impose high costs. For instance when a farmer cannot sell the produce to another trader and the crop has deteriorated and become unsellable. Reducing such uncertainty through personal relationships that establish trust become important, especially in the case where the institutional environmental does not offer suitable enforcement mechanisms (formal or informal).

3.2 Contract farming

Contract farming has been defined as an agreement between farmers and processing and/or marketing firms for the production and supply of agricultural products under forward agreements, frequently at predetermined prices (Eaton and Shepherd, 2001). The agreement often includes the provision of production support by the buyer (the processing and/or marketing firm) to the producer, for instance the supply of production inputs or technical assistance. The basis of a contract farming arrangement is a commitment on the part of the farmer to provide a specific commodity in quantities and at quality standards determined by

the buyer and a commitment on the part of the buyer to support the farmer's production and to purchase the commodity.

Producing on a contractual basis is not new to agriculture. Contract farming has existed for a long time, particularly for perishable agricultural products going to the processing industry, such as fruits and vegetables for the preserved food industry. In the second half of the 20th century, contract farming has become more important in the agriculture and food industries of the developed countries (Royer and Rogers, 1998). Spurred by changes in (international) competition, consumer demands, technology and governmental policies, agricultural systems are increasingly organized into tightly aligned chains and networks, where the coordination of production, processing and distribution activities is closely managed. Contracting between producers and processing/marketing agribusiness is one of the methods to strengthen vertical coordination in the agri-food chain.

Also in developing countries, contract farming is becoming more important. Developing countries are impacted by the same trends in the agri-food system as developed countries. Thus, they also experience the effects of trade liberalization and therefore increased competition, the changes in consumer preferences, the introduction of stricter quality and safety regulations, both public and private. In addition, developing countries are experiencing a number of trends that particularly favour the rise of contract farming (Reardon and Barrett, 2000). One of these trends is the rapid rise of supermarkets in food retailing (Reardon and Berdegúé, 2002). Supermarket procurement practices often include the application of private quality standards and a limitation of the number of suppliers (only working with preferred suppliers). Another trend relevant for contract farming in developing countries is the reduction of the role of the state in supporting activities and services provision. As independent commercial service and inputs provision is often weak in developing countries, contract farming can solve the problem of farmer access to inputs and technical assistance. Contract farming is often seen as one of the methods of linking smallholder farmers to domestic and even foreign markets (Kirsten and Sartorius, 2002; Sáenz-Segura, 2006).

Initiating actors for contract farming are usually buyers seeking to increase capacity utilisation of specific assets (in the case of processing), but they may also be driven by state concerns to promote critical commodity chains (for example in China), or they could be input suppliers who wish to expand input sales (examples can be found in the feed to meat chains of developed countries; often called chain integrators). Incentives for buyers to engage in contract farming with smallholder farmers usually arise from some combination of the following conditions (Poulton *et al.*, 2005; Dorward *et al.*, 2006b):

- a. limited opportunities to source farm produce from independent or vertically integrated larger farms either because they do not exist or because larger farms have more profitable production alternatives;
- b. limited opportunities to source farm produce from existing smallholder markets;
- c. more labour intensive products (giving small family operated farms a competitive advantage).
- d. products with lower credence characteristics (that is where quality can be determined from product inspection without, for example, quality or food safety monitoring processes during production);

- e. small farmer motivations for participation that extend beyond short term direct profits from participation;
- f. some form of horizontal farmer coordination (i.e., some form of producers' organisation)

Reviews of studies of contract farming (e.g. Kirsten and Sartorius, 2002; Singh, 2002) suggest that contract farming arrangements do allow small farmers to achieve higher yields, diversify into new crops, and to increase income. However, they also note a number of disadvantages and threats, such as the limits to the inclusivity of contract farming schemes (often restricted to the top tier of smallholder producers), the often unequal relations between monopsonistic buyers and many supplying farmers, the bearing of high risks by farmers, and the decline over time of terms for farmers in the process of 'agribusiness normalisation'.

Modern (international) agri-food supply chains are highly demanding on the delivery conditions and the quality of the products. Requirements on suppliers include homogeneous and guaranteed quality, large uniform quantities, and complying with strict delivery conditions. Both the increase in international supply chains as well as the rise of supermarkets in domestic food retailing have major implications for all actors in their supply chain. Supermarkets in general favour centralized procurement system, specialized and dedicated wholesalers, preferred supplier systems, and private standards for fresh produce (Shepherd, 2005). These purchasing practices not only replace spot market transactions with contracting, but also have a tendency to exclude smallholder farmers.

Supply chain partnering among producers, traders, processors and retailers implies interdependencies among the activities of the individual chain actors. These interdependencies not only exist in improved logistics (such as reduced lead times and reduced inventories), but also in targeted marketing efforts and quality assurance systems. All of these activities require more vertical coordination and enhanced information exchange. Thus, supply chain management has become more important in the agri-food industry, also for small farmers seeking to strengthen their position in (international) agri-food markets.

3.2.1 Different types of contract farming

Dorward et al. (2006a) conclude that the wide variety in existing contract farming arrangements and their varied success in benefiting smallholders and agribusiness farms demonstrate that these arrangements are complex and that their performance and potential benefits are highly sensitive to specific features of the products, firms, communities and contractual arrangements involved. Despite their complexity and contingency nature, several typologies of contracts in CF have been made. The classical typology by Mighel and Jones (1963) distinguishes between market-specification contracts, production-management contracts, and resource-providing contracts. These contracts can be compared in terms of the main objectives, the transfer of decision-rights (from the farmer to the buyer), and the transfer of risks:

1. A **market-specification (or marketing)** contract is a pre-harvest agreement between producers and buyers on the conditions governing the sale of the crop/animal. Besides time and location of sales, these conditions include the quality of the product, thus affecting a few of the production decisions of the farmer. The buyer reduces the producer's uncertainty of locating a market for the harvest. Under the market-specification contract the farmer maintains most of the decision rights over his farming activities. Under this contract the farmer bears most of the production risk and some of the market risks. No pre-determined price has been agreed between contract parties.

2. The **production-management** contract gives more control to the buyer than the market-specification contract, as the buyer will inspect production processes and specify input usage. Under this type of contract, producers agree to follow precise production methods and input regimes. Under the production-management contract, the farmer has delegated a substantial part of his decision rights over cultivation and harvesting practices to the buyer; he is willing to do so because the buyer takes on most of the market risks and some of the production risks. Usually a predetermined price (or price range) has been agreed upon.
3. Under the **resource-providing** contract the buyer not only provides a market outlet for the product, but he also provides key inputs. Providing inputs is a way of providing in-kind credit, the cost of which is recovered upon product delivery. How much decision-rights and risk is transfer from the farmer to the buyer, depends on the actual contract. Resource-providing contracts can include production-management, thus shifting most decision-rights and risks to the buyer, but can also focus only on providing inputs and an output market and leaving most of the production decisions as well as a substantial part of the risk with the farmer. Under a resource-providing contract, some agreement on prices also has to be made.

Discussions of contract farming are often confusing because there are so many different types of contracts and actors (private sector firms, public sector firms and parastatals, international aid agencies) (Baumann, 2000). For instance, the term *outgrower schemes* is often used for arrangements that provide production and marketing services to farmers on their own land. According to Glover and Kusterer (1990) these arrangements are generally a government scheme with a public enterprise, purchasing crops from farmers, either on its own or as a joint venture with a private firm. They use the term contract farming to refer to the same arrangement in the private sector. *Nucleus estate-outgrower* schemes are arrangements in which a core estate and factory is established and farmers in the surrounding area grow crops on part of their own land, which they sell to the factory for processing. *Multipartite arrangements* is a term often used in the literature to emphasise the participation of several actors.

3.2.2 *Contract farming as a transaction cost reducing arrangement*

In chapter 2 it was explained that institutional arrangements can be considered as solutions to transactional problems, particularly high transaction costs. It has been explained that high transaction costs are determined by a number of characteristics of the transactions, such as asset specificity, uncertainty, difficult performance measurement and coordination. Here we will discuss contract farming as a tool to reduce transaction costs related to those four characteristics of transactions.

Asset specificity

Asset specificity is in general low in most FFV transactions: products are of a generic character, investments (by farmers) are usually low and generally not specific to a particular buyer. These characteristics would not favour an institutional arrangement like contract farming. However, under a number of conditions, contract farming becomes more attractive, both for producers and buyers. A classical example in the FFV industry is the production for the processing industry. Because processing requires substantial investments in plant and machinery which cannot be used for other purposes, processors want to be assured of sufficient quantity and quality of supplies. As spot markets usually cannot guarantee

sufficient quantity and quality, processors often choose to source their raw material through contracts with farmers.

Another example is when products have to comply with specific quality requirements (such as organic or Eurep/GlobalGAP). Farmers will not make necessary investments to meet these requirements because they entail a high market risks. Investments include the effort in finding proper inputs and technical assistance. Thus, buyers of organic products enter into contracts with producers, providing them with resources, technical assistance, and marketing guarantees.

There are a few disadvantages for farmers with respect to production or resource-providing contracts. For instance, farmers lose flexibility in their choice of farming activities. Bound to a crop or livestock enterprise by a contract, farmers cannot adjust production mixes so as to benefit from market opportunities. Second, delivery schedules may be set by buyers so as to influence prices paid to farmers. This strategy can happen when prices are rapidly changing and buyers adjust the delivery schedule to benefit from market volatility. Third, the risks normally associated with monoculture practices are increased. Intensified production of single agricultural crops, or the concentration of animal herds, increases the chances of diseases.

Uncertainty and performance measurement

Contract farming can solve a number of problems related to uncertainty and difficulty of measuring contract performance, which may confront both the producer and the buyer. For the producer uncertainty about buyers and prices are reduced, as contracts provide a guaranteed outlet and typically specify at the beginning of the growing cycle the prices to be paid at product delivery. Thereby, income stability is obtained, particularly if the contract is a long term contract or can easily be renewed. For the buyer, contracts reduce the risk of obtaining sufficient produce at the right time and of the right quality, which may be crucial for processing but also for traders that have contracts for supplying supermarkets.

Farmers' default on contracts can occur because of production failure or simply because farmers have sold the produce to competing buyers, partly to avoid repaying credit and inputs they received as part of the contract or to receive higher prices outside the contractual bond. This is especially problematic where alternative markets are easily accessible and where contractual enforcement is weak. In resource provision contracts, a known problem is the potential use of the distributed inputs in alternative crop and livestock activities.

Buyers might also renege on contractual terms if market circumstances change. For instance, if market prices at product delivery time are substantially different from prices agreed in the contract, buyer may force renegotiation or may engage in contractual hold-up. Such hold-up could be the rejection of products delivered under the pretext of non-conformity to quality regulations. For farmers it is usually impossible or at least very costly to check the appropriateness of the buyer's claim. Buyers might also intentionally avoid transparency in the price determination mechanisms of the contract, making it very difficult for the farmer to assess whether he has received a proper remuneration.

Besides reducing risk and transaction costs, buyers may experience a number of economic benefits resulting from lower purchase prices. By providing inputs to all of the contracted farmers, inputs costs per unit are reduced for the farmer, thus allowing output prices to be reduced. In addition, by contracting with small scale farmers buyers can benefit from the advantages of family farms, particularly for labour intensive crop and animal production

systems. Moreover, buyer access to credit and subsidies is facilitated. The reduction of risks in the buyer's supply chain and the economies of scale associated with contracting operations are conditions that in principle increase a financing institute's willingness to lend.

Contract farming allows better performance measurement, as agreements have been made on how and when to monitor product quality. Under a production-management contract, the buyer has good options to influence the production process (indirectly by providing inputs, and directly by supervising the cultivation). Contracts also provide an opportunity for repeated interaction which generates information on the actions and products of particular producers.

However, when dealing with large numbers of farmers, buyers still face high transaction costs. Managing a commercial relationship with a myriad of partners is a complex task, requiring investments in personnel, in controls and in monitoring systems.

Coordination

Key and Runsten (1999) have argued that contract farming is considered an institutional response to imperfections in markets for credit, insurance, technical assistance, inputs for production, etc. Producers often face production risks because of the uncertainty about the availability and quality of inputs. Failures in input markets are circumvented by direct provision of these inputs through contract farming, and the economies of scale allowed by the larger purchases of inputs by the buyer which can be passed on to farmers via reduced costs. Contracts commonly include provisions on technical assistance, often to help farmers to raise product quality and thus obtain a higher product price. Without such assistance, farmers may not be willing or able to venture into innovative crop and livestock enterprises as these innovative activities involve higher risks. At the same time, this technical assistance can enhance farm production and the management skills of the farmer, and spill-over effects might happen if farmers also have non-contracted crop and livestock activities.

Access to credit is also enhanced under a resource-providing contract, in which the buyer supplies working capital in kind, via input provision. Such a transaction is guaranteed by the commercial commitment between farmer and buyer. By the same token, access to credit for both working capital and fixed capital is enhanced in the case of market specification contracts, because banks may accept the contractual commitment as a sufficient guarantee for the granting of loans. This credit can be seen as an advance payment. There are various systems possible for determining prices or sharing price risk. The trader could fix a price in advance, taking into account price expectations, in which case the risk lies completely with the trader. The trader could offer the price that is current at the time of collecting the goods, or the price the trader received when selling the produce in the market, in which case the risk lies completely with the farmer. Any price between these two in which the trader and farmer share price risk is possible. The difference between the cost of inputs supplied and the price paid can be quite large, reflecting a high interest rate. The system is therefore often seen as a distortion, reflecting on the power imbalance between traders and farmers. However, Hayami and Kawagoe (2001) show that this does not always need to be the case, and that farmers may actually benefit from such schemes⁹, although the risk of indebtedness can be a problem. The downside of easy access to credit is the possibility to incur mounting debts. As Da Silva (2005) has emphasized, most of these negative aspects of contract farming result from the fact that the relationship between individual farmers and the buyer is uneven, the latter often in a position to exercise power and uncompetitive conduct in the definition of the terms of the transactions.

Also for buyers, contract farming may have various benefits with respect to coordination costs as a greater regularity of agricultural product supplies makes possible a better coordination of processing activities or with the timing of the demands from their own clients. On the other hand, this may be costly to buyers, as they internalize the cost of support services, such as extension, transportation, quality monitoring and financial services, which in competing regions may be provided free of charge by public agencies. Finally, contract farming may lead a loss of flexibility to seek alternative supply sources, which is particularly problematic if economic conditions change in favour of seeking alternative sources.

Bogetoft and Olesen (2004) have applied the issue of coordination to the design of production contracts. They argue that coordination must ensure that production is optimized throughout the entire supply chain. Lack of coordination leads to sub-optimization where decision-makers 'optimize' their own decisions without considering all the consequences for other decision makers in the supply chain.

In a situation where many producers supply to one buyer (e.g. a processor), an important aspect of coordination is the minimization of production costs. From an efficiency perspective, producers with lower marginal costs should be allocated a larger share of the production. The allocation can be handled through a market approach, where producers compete for the right to produce through auctions. Another approach is centralized decision-making, where the buyer chooses the producers and their production levels. Coordination can generally be achieved using instructions or price signals, or a combination of the two. Bogetoft and Olesen (2004) state that it is often attractive to coordinate qualitative aspects as well as matching and synchronizing problems via instructions, and quantitative aspects via prices.

This implies that when quality and synchronization become more important, such as in high-quality chains, supermarket supply chains, and perishable product chains, contractual arrangements are more likely to include hierarchical coordination elements (i.e., centralized decision-making and giving instructions). Modern (international) agrifood supply chains are highly demanding on the delivery conditions and the quality of the products (thus on coordination in the supply chain). Requirements on suppliers include homogeneous and guaranteed quality, large uniform quantities, and complying with strict delivery conditions. Particularly the rise of supermarkets in retailing (fresh) agricultural products has major implications for all actors in their supply chain. Supermarkets in general favour centralized procurement systems, specialized and dedicated wholesalers, preferred supplier systems, and private standards for fresh produce (Shepherd, 2005). For traders/wholesalers to supply these demanding supermarkets, they need sufficient quantity and homogeneous quality. Spot markets have difficulty in meeting these retail requirements, thus providing an incentive for traders/wholesalers to set up contract farming arrangements with multiple producers.

3.3 Producers' organisations

While contract farming is an institutional arrangement initiated by the processor/ marketing firm as a tool to reduce costs in its sourcing transactions, farmers themselves can choose another arrangement to give them more control over the processing and marketing of their products. This alternative arrangement is the Producers' Organisation (PO). A PO can be defined as a member-based organisation created by producers to provide services that support the members' farming activities. A PO is an economic organisation, often legally a firm, and therefore distinguishes itself from a farmers' organisation (or farmers' union) that is usually an advocacy organisation. A major distinction can be made among POs into cooperatives¹⁰ and bargaining associations. Although both are membership based service providers, the cooperative usually is a collectively owned firm with economic activities, assets and strategies, while the association should not be seen as a firm itself but as an economic interest organisation. In reality, however, this distinction is not clear-cut, with associations often taking up different economic functions.

POs may have different functions. Bosc et al., (2001) distinguish five types of functions: economic functions, social functions, representation, information sharing, and coordination. The World Bank (2007b) distinguished three categories of functions: economic services by commodity-specific organizations, broad interest representation by advocacy groups, and diverse economic and social services by multipurpose organizations. In this paper the focus is on POs that play a role in supporting the farmer in producing and marketing fresh fruits and vegetables. POs can provide their members with the following services (Bijman, 2002):

1. Direct supply chain coordination: collecting, sorting, grading, processing, logistics;
2. Market information collection and provision;
3. Credit: collective schemes including microfinance;
4. Bargaining: with input suppliers or purchasers/collectors/traders;
5. Innovation and knowledge transfer;
6. Establishing a quality assurance system;
7. Risk sharing.

Why would farmers set up a PO to provide such services collectively, as opposed to attempting to undertake themselves, or to pay other service providers, if available? The basic economic rationale for such collective action may be classified according to the following areas, all of which relate to reducing transaction costs:

1. Market structure and bargaining power: collectors/traders may benefit from barriers to entry and thus be able to exercise market power in their relationships with producers. Producers may wish to market their produce collectively in order to counteract this market power and in order to obtain more favourable terms/prices.
2. Information asymmetry: collectors/traders may have an information advantage about market conditions and do not have an interest in sharing this information with producers. In other words, the interests of such actors is not aligned with those of the farmers. This form of asymmetric information can lead to high transaction costs, particularly in negotiating contracts.
3. Asset specificity and hold-up risks: Buyers may require specific produce or production processes that involve certain investments (e.g. seeds, inputs, training), which would make the producer(s) dependent on the buyer. When such investments are made by a

group of farmers, or when the buyer participates in these investments, it reduces the vulnerability of the individual farmer.

4. Risk sharing: Farmers may not have many options for insuring against particular risks, including environmental and weather risks. They may be able to reduce transaction costs of such insurance by sharing risk.
5. Fragmented production/structural barriers to achieving economies of scale: When landholdings (or individual farm production) are small in relation to demand by individual collectors/traders, this raises the costs of transacting (on a physical unit basis). By reducing these costs through joint collection, sorting and grading the PO can offer a profitable opportunity to buyers.

The first four of these justifications for coordinated action by a PO essentially serve to alleviate problems experienced by farmers, while the last one is based more on lowering (transaction) costs for their clients (thus also benefiting producers indirectly by increasing the volume of profitable transactions).

Thus one can hypothesise that the economic feasibility of collective undertaking of some functions by a PO depends on the extent to which these factors offer gains in terms of transaction costs, relative to individual, “atomised” fulfilment of these functions. The specific circumstances of the fresh vegetable sector, which include relatively high perishability and a wider diversity of products and qualities, lead to specific predictions in this regard, partly based on observed experience in industrialised countries. For example, a more concentrated market of collectors/traders may indicate potential gains for farmers from undertaking collective bargaining through a PO, but will be reduced by the extent to which farmers face competition. And a less concentrated market, accompanied by strong demand, can make the collective organisation of sale through an auction attractive.

A study on the incidence and economic rationale for bargaining associations in the US agricultural markets showed that bargaining is not just about increasing price paid to farmers (Hueth and Marcoul, 2003). They found no empirical evidence indicating that cooperative bargaining has any direct influence on price. Nevertheless, the price negotiation process turned out to be useful in itself as a form of price discovery in markets where there is uncertainty about market supply and demand conditions.

Another example concerns the fragmented nature of production; the gains from a PO undertaking bargaining or selling of produce will be greater if farmers are relatively uniform in productivity and quality. If there are large quality differences, the higher quality farmers will have less interest in allowing a PO to negotiate contracts, or in selling collectively with lower quality farmers. Related to this, achieving economies of scale in transactions depends on whether these are also realised at the trading/wholesale scale. There are fewer gains to collective sale of produce when traders also remain relatively small-scale. On the other hand, when scale is important in trading and wholesaling, for instance when the buyer (especially perhaps in the case of processing or exporting), requires large quantities of relatively uniform quality, then a PO might provide gains in both organising sale and delivery, but also collection and sorting. Other factors influencing the potential for economies of scale in transactions include the technical possibilities and costs of storage (again in relation to demand), which is in turn strongly affected by the degree of perishability.

A further example concerns the asset specificity associated with investments in marketing (including branding) of lower volume specialty or niche products. This is related to the

fragmented nature of production, in that there are institutional constraints to one producer expanding so that she is able to achieve a scale that allows the capture of the benefits from the asset-specific investments.

The nature of information asymmetry can affect the type of gains from a PO. When farmers have less information about prices and market outlets than collectors/traders, then a PO can bargain on their behalf. When farmers have less information about specific quality requirements (as in the case of export markets), then the information transfer and production function of a PO is relatively more important.

Finally, it is worth noting that the economic benefits from a PO may also be less feasible in a situation of historical relational exchange between growers and collectors/traders. There are effectively barriers (higher costs) to changing trading partners. The exchange could even be tied to other types of exchange between the partners (for instance when kinship is at stake, or when producer and collector are tied by credit ties).

Taking these considerations into account, we can explain the general pattern of where POs are found to be active in sale and marketing in the FFV sector of industrialised countries (Bijman, 2002). First of all, POs may function as auction cooperatives when the demand is larger than supply and various qualities are supported in the market, for instance for high quality perishable seasonal products, like asparagus. Secondly, POs function as bargaining associations in the case of products for the processing industry. And finally POs function as marketing associations (in the sense of branding and product promotion), particularly for specialty products.

One of the strong points of a PO in organising marketing transactions on behalf of the member-producer is that it can make use of social capital present in the community in which the PO functions and/or that is present in the organisation itself. Social capital reduces the transaction costs that are caused by information asymmetry. The PO can use informal mechanisms, in the community and in the organisation, to improve information exchange among the members and between members and outside trading partners. The social capital in the PO, in the form of social norms, identification and commitment, reduces the transaction costs caused by uncertainty and difficulties in measuring performance (Borgen, 2001). Thus, producers as members of a PO have lower risk of opportunistic behaviour by the marketing firm (as it is collectively owned and controlled by themselves) and have lower risk of opportunistic behaviour by other member-producers as social mechanisms keep members from such behaviour. In fact, member behaviour in a PO is constrained by three mechanisms that work together in a delicate balance: power/control, material incentives and social norms of cooperation (Thorp *et al.*, 2005). Power/control relates to the decision rights that have been transferred from the individual to the group (thus to the PO); material incentives relate to the economic benefit that the producers obtain now and in the future from committed membership; and cooperation refers to the above mentioned willingness to identify with the common goal. This is not to say that POs are the ideal world, and we acknowledge the many examples of their malfunctioning, however, POs do have substantial potential to reduce transaction costs.

A distinction can be made between formal and informal POs. There are advantages and disadvantages of both formalization and staying informal, very often depending on the particular social and political, and legal context. The following arguments can be put forward for formalization. First, a formal legal status provides POs, just like other legal persons, with

the ability to enter into contracts and to borrow money. Without legal status for the PO, any contract with a third party must be with an individual member or with individual members of the PO. Second, without a legal framework, each group of associated individuals must determine the nature of their relationship to each other and their governing structure. Third, a formal PO and its membership can more easily be protected from abuses such as fraudulent use of funds or the misuse of name and identity of the PO. Fourth, a special legal status also facilitates the (inter)national collaboration of POs, for instance in dedicated federative organisations. Fifth, having a legal status clarifies the rules on liability of the PO and its members. While full liability of the members for the debts of the PO is attractive to any borrower, as the loans can be recouped from the members in case the PO is no longer solvable, it is less attractive for the members. The advantages of formalization may become more important when POs want to enter into contracts with buyers about the delivery of special quantities and special qualities of farm products. Thus, formalization seems to be a basic requirement for POs that want to establish a sustainable trading relationship with downstream actors in the agrifood supply chain.

3.4 Contract farming with producer organisations

Although contract farming and POs are often presented as two different, and even opposing, institutional arrangements, they can also be considered as complementary solutions. POs can solve a number of barriers to efficient use of contract farming, thus making CF more attractive for farmers.

Basically, POs can play two roles in facilitating contract farming. First, they can become part of the supply chain themselves by collecting, sorting, grading, etc of the products. Thus, they are actually organizing part of the supply chain activities. Second, they can bargain favourable terms with the contractor. In addition they can lobby the national government, and they can collect information on markets and other opportunities. In industrialised countries, POs that take up the first role are called *cooperatives*, while the POs that restrict their activities to negotiating are called *bargaining associations*.

Coulter *et al.* (1999) state that POs such as farmer associations and cooperatives can tackle the problem of contract default as well as the issue of the small scale of farmer operations. POs are used as an intermediary between farmers and contractor: the provision of inputs to the farmers is organized by the PO. Costly monitoring of contract compliance is not necessary because farmer default on contract is reduced through the social mechanisms such as social sanctions, reputation, and common norms, which are present in producer organisations. In other words, these informal institutions reduce transactions costs in the contractual arrangement. The problem of scale of operation is solved as the PO organizes the exchange of information, both the technical advice on production methods as well as other information farmers need to comply with quality requirements.

Not every buyer-contractor is prepared to work with an association of its contract partners, being afraid of the association turning into an bargaining organisation. However, there is evidence, at least from the developed countries, that bargaining associations can play an important role in ensuring contract reliability (Hueth and Marcoul, 2003).

POs can play a supporting role in contract farming in at least five different ways, leading to more efficient contracting and a higher willingness of the farmer to enter into CF. First, the

PO can build countervailing power to reduce the often uneven bargaining balance between farmers and agribusiness firm (see section 3.3 above).

Second, the PO can reduce transaction costs for the agribusiness firm in dealing with multiple agents. A major source of transaction cost is the asymmetric information between farmer and buyer on farmer performance. The PO can solve (part of) this problem, as it has better information on the quality and reliability of the producer. Having better information on the characteristics of the producer can be based on two sources. First, when the PO is strongly embedded in a (local) community, the informal communication channels within this community can be used to collect information on particular producers (Bonus, 1986; Bingen *et al.*, 2003). Second, because most farmers (and farmer families) are long-term members of the PO, the latter has ample opportunities to collect information on the characteristics of the producer.

A third role for the PO is in delivering technical assistance, either independently or on behalf of the contractor. The PO can benefit from economies of scale and scope in generating or collecting the necessary information, and in disseminating this information to its members. In addition, the technical experts from their own PO may be better trusted than the experts sent by the contractor (which is often still considered as adversary).

A fourth role for the PO is in dispute resolution (and therefore dispute prevention). The PO can provide a solution to the bilateral equity (and multilateral efficiency) problem. When the producer can rely on the PO to help him solve his disputes with buyers, he will be more willing to enter into contracts, such as for specialized products. The PO may have dispute resolution expertise itself, or it may have the resources to hire such expertise (making use of the scale economies it embodies).

Finally, a fifth role for POs in contract farming lies in providing access to inputs and credit. Although in developing countries interlinkages (between input and output markets) is often a major characteristic of CF, one may ask whether PO can improve access to inputs and credit beyond the service of the buyer (as part of the contract).

3.5 Summary

This chapter has discussed the principal forms of institutional arrangements that are relevant for marketing of FFV in East Africa. Next to spot market transactions, the possible reasons for contract farming, POs and a combination of the two have been reviewed, from a transaction cost perspective.

A basic understanding of these alternative arrangements in a comparative manner contributes to an analysis of their ongoing development, in terms of both successes and constraints. Growth and diversification in the FFV sector goes hand-in-hand with improvements in the functioning of these marketing arrangements, including also the replacement of one with another (for example, spot market transactions developing into contract farming). The remainder of this paper examines these issues in the specific case of Tanzania, with some comparative attention to experiences in other East African countries.

The next chapter provides some background on the development of the institutional environment for agriculture in Tanzania, including in particular the history of state policies.

Chapter 5 then proceeds to describe the institutional arrangements for the marketing of FFV observed in fieldwork in Tanzania in 2007. This is followed in Chapter 6 by a comparison of development in the Tanzanian sector relative to other East African countries, with the aim of drawing some insights on the role of the institutional environment.

4 The development of the institutional environment for agriculture in Tanzania

This chapter summarises important aspects of the institutional environment for agriculture in Tanzania. The specific historical experiences, particularly with respect to state policies in the agricultural sector, are essential to understanding the context within which institutional arrangements for marketing by farmers of FFV currently take place. As discussed earlier, the institutional environment, consisting of the complex set of rules and regulations governing behaviour (including also unwritten norms and codes of conduct), conditions the cost of transacting in goods and services. Thus, we are looking in this chapter for elements of this institutional environment that will provide an explanation, in terms of transaction costs, of the situation in the FFV sector in the subsequent chapter.

We begin with a short summary of the development of Tanzanian agricultural policies since independence. This is followed in turn by a discussion of recent decentralization efforts, the cooperative movement in Tanzania, and the country's legal institutions affecting the costs of contracting and exchange.

4.1 *Background: From Ujamaa socialism to a liberalised economy*

The British colony Tanganyika became independent on December 9, 1961, with Nyerere as its first prime minister. In 1964 Tanganyika united with Zanzibar, and was renamed the United Republic of Tanzania. In 1967, the Government made the "Arusha Declaration", which placed the entire country on the path toward "Ujamaa" or self-reliance¹¹. In the agricultural sector this meant the following (Uliwa and Fischer, 2004):

1. **Collectivization** of agricultural production in planned villages. Much of the country's rural population was resettled into villages to collectivize agricultural production.
2. Large **subsidies** for fertilizer, pesticides and improved seed, using technology and ideas from the green revolution
3. An **elimination of taxes on agricultural products**
4. Establishment of the **Primary and Regional Cooperatives**, which had a monopoly on crop purchasing and marketing. These were often formed by Government staff, rather than farmers, and they paid uniform prices across the country. Prices for staple commodities, like maize, were often set below market rates.
5. A goal of national **food self-sufficiency**
6. Extremely **high levels of taxation** on private farms and processing companies
7. **Nationalization** of most estates, plantations, import and export businesses and food processing plants. The largest food processors became the National Milling Company (NMC), while the largest exporters became the General Agricultural Foods Exporting Company (GAPEX). These companies, along with national companies dedicated to the various cash crops, became the third tier in the system of Primary and Regional Cooperatives.

From 1963 to 1976, the market for most food crops was monopolised by Cooperative Unions (CUs), although marketing of fruit and vegetables was never regulated by the government. By 1976, there were 1,300 CUs, covering nearly all crops and geographic areas. The rapid expansion of the cooperative system led to problems of mismanagement and fraud. In many cases, crops were collected from farmers who never received payment. This led to a decline in production. In 1976, the Village Act was passed, which gave all registered villages the legal status of cooperatives and which made the inhabitants automatically members. However, there was no sense of ownership felt by members of the original cooperatives, because the Government installed the management structure, leaving farmers powerless to control the actions of the management (Uliwa and Fischer, 2004).

Up to 1987, the government prohibited all commercial sales of food crops, although retail sales were allowed at local markets, and individuals were free to carry a limited quantity of food. Despite official regulation, a considerable amount of grain was marketed through parallel channels, which was designated as “illegal trade”. Pan-territorial pricing was introduced in 1987, which meant that farmers received the same price for a particular crop regardless of their location in the country. This constituted in effect a subsidy on transport costs, benefitting farmers in remote locations. In the late 1980s and beginning 1990s the government began to implement the first liberalisation reforms (Ponte, 1998):

- The pan-territorial pricing system was abolished and trade in goods was allowed up to 500 kg, after failed attempts by the government to crack down on “illegal” traders of food and consumer goods.
- Official food prices became floor prices.
- Consumer subsidies on maize flour were abolished.
- All restrictions on the transport and movement of grains were lifted and private traders were allowed to buy from CUs; and in 1989 they were allowed to buy directly from producers.

The liberalisation reforms were implemented differently for different crops. Reform was much slower for the traditional cash crops. Non-traditional export crops and food crops were liberalised first. Traditional export crops were liberalised later, the cashew sector in 1991, the coffee and cotton sectors in 1994 and the tobacco and smallholder tea sectors in 1997. In a study about rent-seeking in Tanzania, Fischer (2006) describes that despite the poor performance of the traditional export sector, the government was not prepared to initiate a rapid transition to a more efficient competitive market that included private sector participation. Reasons for preventing or postponing liberalisation were partly institutional: marketing boards and cooperatives had several important functions such as supplying credit, maintaining links with remote less profitable areas, the control and efficient distribution of inputs and adequate processing of outputs. However, this does not account completely for the lack of progress. According to Fischer, many cooperative and marketing board officials believed that private traders were inherently corrupt, did not care about the rules of the game and thus operated without licenses, evaded paying levies, engaged in smuggling, used transfer-pricing methods and even stole the farmers’ crops. Fischer points out that the sequencing of liberalisation indicates rent-seeking patterns rather than a logical approach to (slow) reforms (Fischer, 2006: 370-371):

“It appears that Tanzania reformed selected parts of its agriculture sector either when rents had “evaporated” or when pressures from inside the sector became sufficiently high. Given the balance of payment problems in the 1980s, it would have made sense

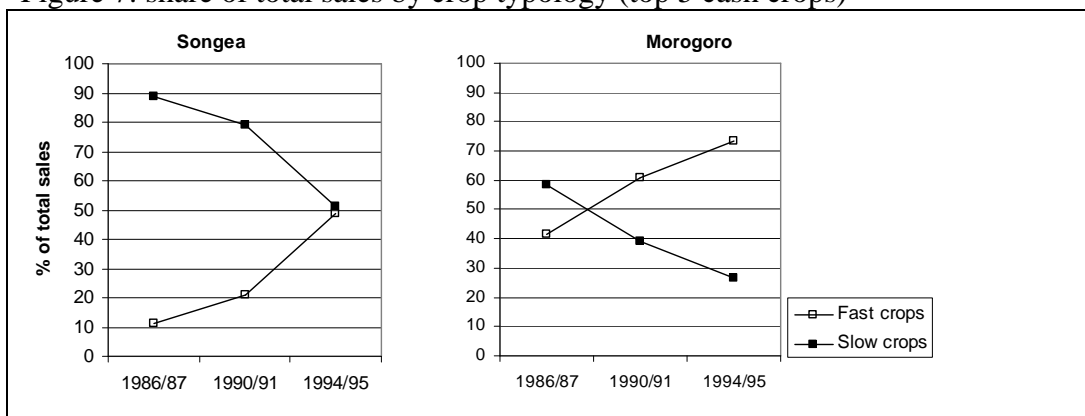
to first reform and liberalise the most relevant foreign-exchange earning sectors, i.e. the traditional export sector with coffee and cotton. What actually happened was the contrary. Tanzania began by liberalising non-traditional exports –not surprising as they were never included in the monopsonic marketing channels (...)– and within the traditional export sector, it started with the not-relevant sisal production. Coffee and cotton were only liberalised at a time when the government no longer depended on cheap foreign exchange to subsidise selected importing beneficiaries. With the unification of the exchange rate in 1993, rents from the allocation of foreign exchange disappeared, and almost simultaneously the strong resistance of policy makers against private-sector participation vanished (participation was finally allowed in the season of 1994/95).”

Fischer thus argues that pressure from inside markets also helped to push through reform in some cases and gives two examples:

- Limited liberalisation of the cashew nut sector happened in 1991/92 when the industry was according to the World bank “at the brink of collapse”.
- Non-traditional export and food products such as FFV were already liberalised in the early 1980s because they were perishable and demanded a more efficient and faster distribution. Embezzlement and other modes of rent appropriation that undermine efficiency would have implied much higher costs for these products.

Liberalisation had a greater influence in areas where farmers had many alternative opportunities of production. Ponte (1998) describes how the reforms influenced the crop choice of farmers. The government monopolised system –with the CUs buying up crops and providing farmers with cheap inputs on credit– favoured the cultivation of traditional crops, which Ponte describes as “slow crops” (maize, coffee, tobacco and sunflower) which are often also high input crops. In contrast, in areas where there were more private traders and in the period after liberalisation, farmers switched to “fast crops” (beans, fruits and vegetables), because these can be harvested several times per year, giving farmers a stream of cash throughout the year. The CUs, however, avoided marketing fast crops because they had neither the operational flexibility nor the administrative speed to market them properly. A consequence was that in remote areas such as Songea, slow crops were preferred up to the 1990s when private traders became more active and in areas such as Morogoro, which had active involvement of private traders, fast crops were preferred (Figure 7).

Figure 7: share of total sales by crop typology (top 5 cash crops)



Source: (Ponte, 1998)

Finally, Fischer (*ibid*) points out that part of the problems related to the implementation of reforms was lack of capacity, many people in the state bureaucracy did not effectively understand what liberalisation and market forces meant. Thus although the government had embarked on a liberalisation agenda, there was still a willingness to assist ailing parastatal companies and industries, and implement conflicting policies. In 1994 for instance, the Tanzanian Ministry of Agriculture suggested for the sisal industry both “complete deregulation of the industry” as well as several measures to increase protection, and one-off measures such as the banning of jute bags for exports in favour of homemade sisal bags.

Fischer (*ibid*: p. 372-73) mentions that rent-seeking forces seem to have been most apparent in the strong resistance against private sector participation: “Cooperatives were reluctant to work together with the private sector investors. (...) Once private sector participants were finally tolerated, countervailing rent-seeking actions from cooperatives, marketing boards and the Ministry of Agriculture again hampered the creation of a “level playing field””. The challenge to limit rent-seeking behaviour remains a challenge in Tanzania. On the one hand, it is relatively easy for the government to fall back and reintroduce restrictive and competition-limiting measures. On the other hand, there is also a danger that new institutions will be captured and misused by the old rent-seeking elite. We saw an example of the first issue during our visit to Tanzania in September 2007. In the local newspapers it was reported that imports of several FFV were banned in order to promote the local production of FFV. However, a large processor of tomatoes in Dar es Salaam complained that this was affecting his business: when domestic supply is low (due to seasonality or crop failure) processing can be maintained by importing from neighbouring countries. With the new ban this would become difficult.

Besides an apparent distrust of government officials with respect to the private sector, and the tendency to impose policies that limit competition and the freedom of the private sector, a multitude of bureaucratic rules issued by different governmental bodies hamper the functioning of businesses. For instance, formal registration of a food vending business in Tanzania requires the entrepreneur to go through 23 activities in various agencies. The procedures are often also unclear to the entrepreneur, which creates conditions for rent-seeking and exploitation by officials (Nkya, 2007), see also chapter 6, particularly section 6.3 on doing business in Tanzania.

4.2 Land tenure

The dual system of land tenure introduced by the German Colonial power and maintained during the British colonial period was preserved under the Ujamaa system. The dual system consisted of declaring all land to be crown land, with the German, British colonial governor and later the Tanzanian president as the custodian of all land. This implies that the state, through the president, operates not only as a political sovereign but also as the owner of land. This role was further strengthened by the Land Acquisition Act of 1967 which empowers the president to acquire any portion of public land for a “public purpose”, or grant land either as a conveyance of ownership constituting of a perpetual tenure with a clause allowing the state to acquire the property on a number of public interest grounds, or as a leasehold with the option to purchase and enlarge the tenure to ownership. Under German and British rule, land rights of chiefs or clan heads of communities were also recognized, thus establishing a system of use rights and customary land tenure (Kauzeni *et al.*, 1998).

While the crown/public land was maintained under the Ujaama system, the customary land tenure system underwent major changes. The Ujamaa villagization programme devolved land resource management to the resettled villages and formally eliminated customary tenure laws. However, customary tenure laws continued to exist *de facto*. After the mid-1980s new agricultural policies allowed people to move back to their original home areas, leading many to reclaim rights to land they had previously cultivated. The legacy of the Ujaama system, the continuation of customary tenure laws and the (re)settlement of farmers has led to the emergence of a mixed land tenure system (Odgaard, 2002):

- Indigenous customary rights. These rights are held by people who are indigenous to the area. Rights differ in accordance with age, status and gender. Indigenous customary claims to seemingly unoccupied land have grown as a result of increased competition for land. Indigenous customary rights are considered locally to be as secure as private title deeds. Customary rights are usually associated with obligations to use the land.
- Customary rights rooted in non-indigenous customary rules and norms. Such rights are held mainly by groups of immigrants. Distribution of specific use rights are conferred to individuals and families by internally recognised traditional authorities in accordance with the way they interpret their own specific ethnic customary rules. These groups may or may not have approval from the local authorities to use the areas they occupy. While using the land, some of them may get involved in negotiation processes in which they try to increase their tenure security.
- Rights through allocation by official village authorities. Many people in the area have received rights to some or all their land by this means. Such rights are held by both “indigenous” villagers and immigrants, mostly men and (some) women (married women are generally not allocated land without the consent of their husbands).
- Borrowed or rented land rights. The major distinction between the conditions associated with borrowed and rented land rights is in the nature of the relationship between landowner and borrower/renter, and the form of payment. There are several types of arrangements possible (rent in cash, in kind or in labour). Both borrowed and rented land rights are also often associated with the delivery of various types of services to the landowner, restrictions related to the use of land (short-term, no permission to plant perennial crops or to make investments of any kind which may lead to later claims of property rights for the tenant).
- Land rights obtained through commercial transaction. An increasing number of particularly urban people try to obtain access to land this way for investment purposes. Some of these rights are formally sanctioned by an officially approved title deed, but more informal written evidence, signed by representatives for the official or traditional village authorities and witnesses, is becoming commonplace as a first step to formalisation.
- Communal lands. Villagers use communal lands for various purposes such as grazing, firewood and fruit collection. Everyone who is a recognised member of a certain village does, in principle, have such rights, and exercises them to varying degrees. However, rights to village public lands are a frequent object of struggle. There are many cases of village boundary disputes in the area, disputes about whether outsiders have the same rights as indigenous inhabitants in such areas, while some people claim that they have customary rights to various pieces of land in these areas. There are also conflicts related to the relationship between customary rights and obligations. While everyone feels free to use these resources, it is difficult to hold specific individuals or groups of individuals directly responsible for sustainable management.

Although land tenure seems to be fairly secure in Tanzania, obtaining (new) land rights or land use rights is rather complex, with different authorities (local government officials, traditional community leaders, the state) granting rights. During our visit in 2007, some foreign commercial farmers involved in export horticulture, indicated that the ease of obtaining land also depends on government policy, which keeps changing.

4.3 Cooperative movement

In this section we will focus on the cooperative movement in Tanzania, which was one of the main features of the Ujamaa period, and which has shaped the performance of the cooperative movement (including producers' organisations) today. Tanzania's experience with producers' organisations (POs) dates back to 1925. Following independence and under influence of Ujamaa Socialism, the number of POs were increased to cover nearly all small-scale farmers. The POs were structured in Primary Societies at village level, which were part of Cooperative Unions. At the national level, there was a national federation of Cooperative Unions, Crop Marketing Boards for export crops and Parastatal Processing Industries for domestic products. These were all initiated and controlled by the state (Uliwa and Fischer, 2004).

After liberalisation of the Tanzania economy in the 1980s and 1990s, this system has been dismantled, although the remnants continue to affect any new initiatives to develop farmer-owned producer organizations. These remnants include a heavy government structure in the form of the Ministry of Marketing and Cooperatives, complex registration requirements and the continued existence of the export crop marketing boards. Some Primary Societies and Cooperative Unions continue to exist, but most are inactive, due to debts and lack of working capital. In 2002 the Government passed a new "Cooperative Development Policy". The main changes from the old policy include an elimination of the Government's role in cooperative management and recognition that cooperatives should have a commercial rather than a civil service motivation. Uliwa and Fischer (2004), however, note that throughout the policy document, there are hints that the Government is uncomfortable with completely relinquishing its control over the cooperative movement.

Besides the several types of *formal* cooperatives (such as primary societies), several *informal* POs exist in Tanzania. While informal POs may continue to perform well, there are a number of reasons why POs may want to become formal organisations (which were discussed in section 3.3). Informal POs have several options for formalization under Tanzanian law, depending on their goals and activities. Many POs exist without formal registration, and are able to conduct their activities without interference from the Government. However, when a group wants to open a bank account, take out a loan, sign a contract or own property, it must be formally registered. A PO has several registration options:

- Cooperative Union with the Cooperative Department at national level under Cooperative Law.
- Farmers' association (CBO or NGO) with the Ministry of Home Affairs under the NGO Bill
- A trust body (which is able to own property and do business) with the Attorney General under the Law of Trust
- A company limited with guarantee or shares, with the Registrar of Companies under the Company Ordinance

Some of our interviewees were of the opinion that once a PO has become a legal entity, it does not matter how it is registered. When it is registered, it is still difficult to obtain a loan because of the need for a collateral. Land cannot function as collateral as land is never formally owned (all land is state owned, see previous section). Usually 50% of produce is used as collateral, or another entity or person can vouch for you (such as an NGO).

Cooperative Unions are unpopular because of the negative experiences farmers have had with them in the past (Uliwa and Fischer, 2004 and findings of review team). The main criticism is that farmers had had very little say in the management of the cooperative (which was usually appointed by the government). They are therefore very hesitant to hand over authority without any mechanisms to influence decisions taken by the management. Farmers are not against producer organisations as such, but are critical of the way they are organised and managed.

Some of the newer Cooperative Unions (CUs) have been successful in terms of increasing their numbers and membership, such as the Savings and Credit Associations (SACCOs). After the collapse of the cooperative system, most farmers did not have access to financial services. The main sources of financing are inputs provided by agribusinesses (as part of contract farming) and a limited, but growing, number of SACCOs. Table 1 shows the recent growth of SACCOs.

Table 1: Development of SACCOS in Tanzania, 2000-2002

Year	Number of SACCOs	Number of members	Value of shares (billion TSh)	Deposits (billion TSh)	Loans issued (billion TSh)
2000	803	133,100	5.6	8.4	11.5
2001	927	137,300	6.6	8.6	12.4
2002	1,035	142,700	6.6	8.7	12.2

Source: Public Expenditure Review for the Agricultural Sector 2002/03 (cited in Fischer, 2003)

Fischer (2003) remarks that the members of the SACCOs probably do not add significantly to the number of farmers with access to financing, because the members are relatively well off and have less need for credit. In fact, SACCOs function best in high potential regions where farmers have money to save and input loans make economic sense.

Women comprise only about 15% of the SACCO membership. For many members, the ability to save money is more important than borrowing, because it provides a safety for the family in case of illness or other emergency. This points to the fact that the relatively well-off farmers profit more from SACCOs than very poor farmers. In section 3.2.2 we concluded that one of the reasons why contract farming exists is the fact that financial markets do not function properly, and that especially poor farmers therefore depend on traders to supply them with credit.

Concluding, the fact that farmers have had negative experiences with cooperatives in the past has made them sceptical about joining cooperatives, especially when decision rules and transparency are not adequately implemented. This lack of trust in the cooperative movement can be seen as an informal institutional constraint. Furthermore, it is not yet easy to formalise producer organisations in Tanzania, which can be seen as a formal institutional constraint. These two reasons may have contributed to the fact that there are few well-functioning producers' organisations in Tanzania, especially those that have been established by farmers themselves.

4.4 *The role of governmental bodies in shaping the institutional environment*

The role of the government has been decreased in the past decades as described in 4.1, however, it is still influencing the agricultural sector through several governmental bodies. These governmental bodies shape the institutional environment of agricultural crop trade through their role in (enforcing) regulation. We will discuss those governmental bodies and their policies that have an impact on agricultural crop trade (and FFV specifically).

Product boards

For all the major cash crops there are semi-autonomous product boards, appointed by the Ministry. These boards have nearly unlimited powers to regulate all aspects of production, processing and export of their crops. Each board is governed by its own legislation, and has the power to raise its own funds. FFV are not in this category, and therefore this sector experiences less government intervention. Fischer (2003) puts forward that excessive regulation by the government through these boards constitutes a policy distortion that is affecting agricultural growth. Generally, agribusiness views the crop boards as burdensome regulatory bodies, covering many functions that would be better left to the private sector. Thus, the fact that there is relatively little intervention with respect to FFV can be viewed as a positive sign.

District office

Tanzania has implemented several decentralisation policies, one of them consists of decentralising government authority to the district level. The District Office (DO) has been given greater authority and autonomy: it falls directly under the Prime Minister's Office and is not accountable to any Ministry. A disadvantage of this system is that policies formulated at Ministry level are not always translated down to district levels, thus limiting the ability of Ministries to implement policies at district level.

The DOs have limited capacity to formulate implement policies or programs and a common complaint noted during the interviews held in 2007 was that they have tended to focus on mainly tax collecting to generate revenues, instead of taking up other functions (in line with Ministries policies). District governments can impose their own taxes and fees on agricultural products. The taxes, called "cesses", are levied at points of sale and road blocks. In some cases, the crop must be produced or sold in the district to levy the tax. In other cases, cesses are charged on goods as they move across the district, or when they arrive at their destination. Fees are charged for bicycle and push cart ownership, petty business licenses, and a variety of other activities (Fischer, 2003).

District Produce Cess is only levied on marketed food crops as a percentage of the value of produce sold. The DOs can decide the percentage, although there is a ceiling of 5%. A study of agricultural sectors in Tanzania (ECI, 2004) reported that the government was not able to provide a listing of applicable District produce cess rates, which reflects the fact that DOs have a great deal of autonomy in setting and changing the rates. Some of our 2007 interviewees complained that there is much uncertainty over the Cess rates because DOs keep changing the rate, and also that the DOs see the Cess as a revenue and therefore aim to increase it to its maximum level. Fischer (2003) cites a speech by the Minister of Finance made on June 2003 in which it becomes clear that central Government recognizes the problems caused by a multitude of agricultural cesses and fees, as well as the need for change. However, changing the situation is difficult considering that Tanzania has 125 districts, each

with its own structure of fees and cesses on a wide variety of cash and food crops. In addition, the districts have every incentive to maintain the taxes, since they fund the district Government (including the salaries of the tax collectors). Finally, it is evident that there will be a tension between rural districts that want to tax crops at production and urban districts that want to tax crops at market.

District Produce Cess is levied per bag. When produce enters a market a market fee is levied per bag. This practice has led to traders increasing the volumes of bags, the more produce a bag contains, the lower the taxes that need to be paid over a unit of transacted produce. This widespread tax evasion is made easier by the fact that there are no standard measures for bags per produce. Producers are disadvantaged by the practice, because they are paid per bag and not per standard unit of weight or volume.

Concluding, the DOs have in theory the ability to shape agricultural markets by implementing policies in line with those of different Ministries and forging public-private partnerships that could possibly reduce transaction costs. However, in practice the DOs have limited capacity and resources. Possibly this is the reason why setting and raising taxes has become one of their main tasks. But this may actually increase transaction costs by increasing uncertainty over taxes (requiring those engaged in trade to collect information on taxes) and imposing high taxes (inducing those engaged in trade to find ways to evade taxes thus complicating trade).

4.5 *The role of legal institutions on the institutional environment*¹²

As formal institutions are enforced by judges, courts, police, and bureaucracy, the legal institutions play an important role in shaping institutional arrangements. In this section we will briefly describe the legal institutions in Tanzania and how they impact on institutional arrangements.

Major parts of Tanzanian legislation and regulations are inherited from British legal rules that are several decades old, and in a few cases over a century old. In addition, the judiciary in Tanzania, like elsewhere in Africa, was devalued and placed in a subordinate position relative to the legislative and executive bodies of government under socialism. Judges were thus subject to one-party dictates.

The practice of private litigation, suppressed during socialism, has not significantly revived in the post-liberalisation period. The court system continues to be severely underfunded. The effects include seriously dilapidated and crowded premises, lack of materials and furniture, lack of trained personnel with resulting disorganisation and loss of files, growing backlogs at the lower levels, assessors and witnesses who fail to appear for lack of payments, and underpaid judges. Moreover, the rules and practices followed in appeals unduly prolong cases and tax the resources of the courts. Finally, the Tanzanian courts have been found to take a flexible view of the law, and regard themselves as having a duty to protect those who are “poor and less fortunate” and rule against the private sector.

As a result, the private sector in Tanzania has not placed a great reliance on the law as a means of resolving disputes. In a study on whether and how legal institutions in Tanzania facilitate growth-oriented transactions, Kähkönen *et al.*, (2001) survey 140 industrial firms and their suppliers¹³. They find that long-term patterns of mutual dependency provide the

primary guarantee of contractual discipline. Transactions tend to be documented by simple purchase orders, and the use of legal counsel is rare. Firms' perceptions of the legal system are consistent with research showing a weakly established rule of law, wide judicial discretion, and outdated commercial laws.

Figure 8: Contract enforcement mechanisms of industrial firms in Tanzania 2001



Although Figure 8 shows that firms did not have sufficient confidence in the legal institutions for dispute resolution, at the same time, they did not rank weaknesses in contract enforcement

as the most important obstacles to their development. Most felt quite satisfied with their ability to sort out disputes without third-party intervention. The need to preserve stable relationships appears to lead to informal bargaining, compromise, flexibility, and sometimes recourse to alternative options in the markets. However, Kähkönen et al. (2001) find that the firms tend to confine their dealings to those firms that are known quantities to avoid disputes. There are two main problems with the strategy of limiting contacts to a tight network. First, the size of such a network is likely to be smaller and more homogeneous than optimal for purposes of learning about new techniques and market opportunities. Second, such tight-knit networks tend to be based on ethnicity, which would severely constrain the size of any potential network available to most firms in countries such as Tanzania.

They put forward that there are two important kinds of costs to self-enforcing contracts. First, self-enforcing contracts cannot by definition be complex, embody asset-specific fixed investments, or as a result, promote robust growth and development. Second, self-enforcement appears to be a viable option only for businesses owned by Tanzanians of Asian origin. Neither firms owned by African Tanzanians nor foreign business seem to use this option. This leaves both the diverse majority of Tanzanians as well as the sources of international investment capital, with few workable options, or out of the picture altogether.

The finding of Kähkönen et al. (*ibid*) are applicable to the FFV sector. First, the survey included small and medium sized food firms and second, the findings correspond to several comments made by interviewees in our survey in 2007. They indicated that they never or hardly ever used formal institutions such as the police, courts or lawyers to enforce contracts or resolve disputes. The lack of effective formal institutions that can reduce transaction costs of contract enforcement and dispute resolution also leads to self-enforcing contracts in the FFV sector with the associated costs identified by Kähkönen et al. (*ibid*). Complex and asset-specific fixed investments (e.g. in processing plants) and growth in the FFV sector are limited. The 2007 survey found little evidence of trading partners being of the same ethnicity. We did find that local traders rely on social ties and local informal institutions for contract enforcement and dispute resolution. Secondly, the main FFV processor in Tanzania (Dabaaga) is owned by an Asian family.

5 Transactions in the fresh fruit and vegetable (FFV) sector in Tanzania

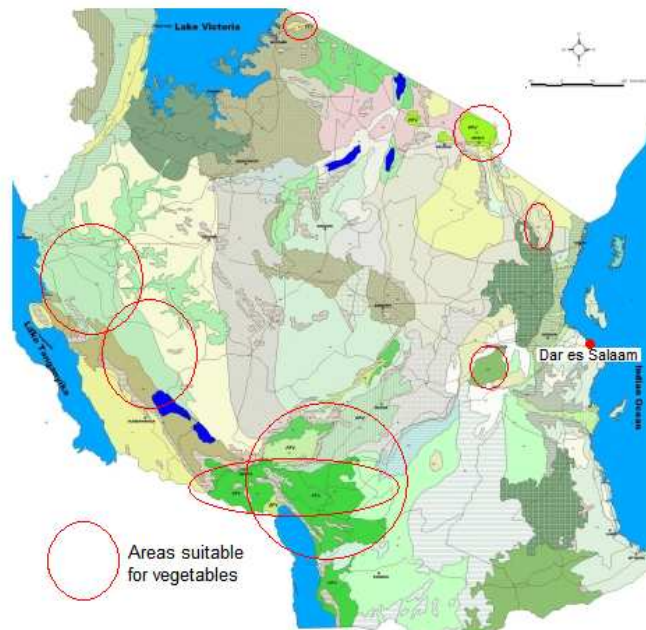
This chapter examines institutional arrangements currently found for the marketing of FFV in Tanzania. The information is based primarily on interviews held in September 2007 (see Chapter 1 and Annexes 1 and 2). The following types of arrangements are discussed in turn: spot markets, contract farming, POs, and contract farming with POs. For each arrangement, the transaction costs framework developed in chapter 3 is applied. The analysis seeks to understand the rationale for the arrangements in terms of relative transaction costs, as well as identifying potential constraints to growth and expansion due to the overall level of transaction costs.

The previous chapter presented some elements of the institutional environment in Tanzania that could affect the cost of transacting in the FFV sector. After the discussion here of the various arrangements, the next chapter will briefly compare the evolution of the institutional environment in Tanzania with that in some neighbouring countries in East Africa, particularly with respect to the FFV sector.

5.1 FFV Markets

In Tanzania, marketing FFV, i.e. getting FFV from the producer to the consumer is a complex task. Produce has to be sourced from various locations and transported to distant markets (see Figure 9). FFV in Tanzania are grown in various (specific) areas that are often remote from (major) consumer areas (see Figure 9).

Figure 9: Areas suitable for growing vegetables in Tanzania



Source: <http://www.agriculture.go.tz/>

NB the different colours indicate different agro-ecological zones in which specific crops can be grown. The areas suitable for vegetables are indicated by a red circle.

Communication infrastructure is poor, thus information on supply and demand and market-clearing prices must also be coordinated over long distances and between various market actors.

In Tanzania, spot markets constitute the default option for marketing fruits and vegetables for most farmers. Our focus is on small-scale farmers who sell their surplus produce to rural traders called collectors (or brokers)¹⁴. Four different output markets can be discerned (see also Eskola, 2005)¹⁵.

Local village markets: the farmers themselves bring the produce to nearby informal markets, which are often located near (main) roads. The produce is often sold by women or children, who sell to an established circle of customers or travellers on the road. These small roadside markets usually have little or no link to larger markets in the region.

Regional markets: these are the most important consumer markets. Although some farmers may bring their produce to these markets, they are mostly dominated by traders, which can be divided into collectors, wholesalers and retailers. In Tanzania, wholesalers buy from the collectors (who are organised into a collectors' association). Eskola (2005) reports that even large traders are unlikely to move from the regional markets into national markets even for marginally higher profit because they are committed to serving the existing base of customers. This commitment is usually social rather than economic, and the loyalty to customers, friends and relatives is more important than the "short-term opportunistic profits available in other markets".

National markets: these are usually located in the capital city and can be characterised by a large number of small-scale producers and local traders (wholesalers and retailers), a few large-scale traders who are able to finance transport and marketing costs. In Tanzania, the national market is Kariakoo Market located in Dar es Salaam. It was established in 1974 and now has the largest wholesale facility in Tanzania. It handles a daily average of 250 tonnes of produce. It provides services in four submarkets (around 89 retail shops, cereals retail market, wholesale market in green vegetables, fruits, dried fish, yams and coconuts, and the open market that surrounds the main market building with around 2000 petty traders). In total there are 3876 registered traders, who are organised in registered organisations.

Collectors play a key role. They are the ones who match varying supply from a multitude of small farmers that are geographically dispersed with a more or less steady demand in a few centralised markets (regional, national or abroad in e.g. Nairobi). This function is combined with transport, grading, and often financing. Auxiliary actors occasionally appear for specialised functions such as transport, packing or picking (oranges). Because collectors pay farmers in cash on the spot they travel with large amounts of cash, which constitutes a big risk. One wholesaler in Kariakoo market indicated this was why it was preferable to work with many collectors who handle smaller amounts of produce and cash than to work with one big collector. Most traders have liquidity problems which is a symptom of imperfections in credit markets (and thus of coordination). Especially the small traders are financially constrained. This also limits the amount of cash one trader can carry, and will thus limit the extent of trade that can be executed by one trader.

Collectors have formed their own association. All collectors sell their collected produce to this association, which then sells to wholesalers and retailers. This makes it almost impossible for farmers to directly sell in Kariakoo market. We have heard reports of farmers who have

tried this, but were offered an extremely low price. Collectors need to travel long distances over roads that are often in bad shape. Collectors are usually 'specialised' in a certain area and crop, and have detailed knowledge of the area and the farmers. Because there are many farmers that produce FFV, collectors are fairly certain that they will be able to procure sufficient amounts. However, much time and effort is spent in collecting (e.g. waiting time) and transporting the goods.

The export market for non-traditional cash crops (e.g. cashew) operates separately from the national markets for food crops. The traders operating in export markets are large-scale and usually foreign, have large financial resources and considerable bargaining power relative to producers.

There is a variety of traders with respect to size of business (from small-scale to large). In Tanzania, large traders have a wider geographical reach and a higher turnover (US\$ 30-90 per day). Medium-scale traders buy their produce mainly from local producers and trade a limited number of goods. Turnover is around US\$ 20 per day. Their working capital is sufficient to run the business but is not sufficient to finance the transport cost or purchase large quantities of goods from other regions. Their business knowledge is weaker than the large-scale traders (e.g. they are unable to carry out bookkeeping). Small-scale traders are often very poor and have no other means of income. They are often landless, have no means of transport and are unable to give credit or receive it (due to their difficulties of paying back). Trading gives them a very small income (their turnover is around US\$ 4.5 per day) (Eskola, 2005).

Wholesalers on regional and national markets buy produce from the collectors and sell it on to retailers who stock small quantities mainly due to the limited demand among consumers. Wholesalers have a right to a certain market space¹⁶. This right can be formal, in the case where they are assigned a spot by the market authority and pay for it, or informal, in the case where no such arrangement is made with official market authorities, although an informal agreement may have been struck with other traders to share space in an unauthorized location (e.g. next to the market facilities). In Tanzania, the traders must register to be granted permission to trade at the markets. They pay a daily fee to the market authority for cleaning and security.

5.1.1 Asset specificity

Asset specificity as used in most of the literature on developed countries, indicating specialized investments for a particular customer, is low in markets transactions in FFV. However, temporal specificity and site specificity do play a role and thin markets increase temporal and site specificity and associated hold-up problems (Dorward *et al.*, 2004a).

Perishability seems to be an important factor in spot markets for FFV. Most produce that is sold is highly perishable, once picked it needs to be traded and transported within a certain time span as product quality deteriorates rapidly. We found that farmers avoid hold-up problems with tomatoes by picking tomatoes only after they have secured an agreement with collectors who have arrived in the village. Collectors are forced to wait up to a day before they have filled up their quota (truck) and can leave. Another way farmers avoid potential hold-up problems is that they will sell it to the first collector who offers a reasonable price. There is a trade-off between risk of not selling produce in time and obtaining a good price. Because farmers do not know what price the next collector will offer they take a risk when they decide not to sell and wait for another collector to pay a better price.

This begs the question why farmers and collectors do not establish an agreement about when the collector will pick up the produce, or establish relationships by repeated contracting. Reasons for not doing this are the combination of risk aversion by the farmer, the availability of many collectors, high price fluctuations and a perishable product. Apparently the advantages of being able to sell to more collectors (at different prices and at different times) outweigh the advantages of relying on one collector. Establishing a relationship with one collector through repeated transactions may also involve high costs of coordinating the timing of transactions, failure to do so will involve high costs of unsold and spoiled produce or unfulfilled orders.

5.1.2 *Uncertainty*

Due to climatic variability, farmers in Tanzania deal with production uncertainty and risk of crop failure, which will have a direct impact on a farmers' income. Production fluctuation in turn causes price fluctuation, when in a region harvests are low, prices rise and vice versa. In the spot markets, production risks are borne mostly by the farmer. Farmers reduce this risk by avoiding to rely on one (high income) cash crop and diversify the range of crops, including subsistence crops. This means that they will only be able to offer small amounts on the market and are not able to specialise. This will increase their transaction costs in the market where different traders buy different crops.

5.1.3 *Difficulty of performance measurement*

Spot markets leave much room for opportunistic behaviour of market participants, especially in the form of incomplete or distorted disclosure of information. We will go over the different sources of information asymmetry in the next paragraphs which are linked to performance measurement.

First of all, in transactions with FFV in spot markets there does not seem to be a problem of performance measurement with respect to *production*. Collectors have little interest in the way the FFV are produced and are merely interested in the end product. When performance measurement does become an issue, for instance because consumers demand pesticide-free FFV, a spot market arrangement would no longer suffice, as the pesticide content of a FFV cannot be determined by the end product (without expensive testing). This would give rise to asymmetric information problems and possible opportunistic behaviour, requiring a different institutional arrangement. We saw one instance of organic produce being sold in a spot market. This was part of a CABI Farmer Field School project with the objective of growing organic vegetables near Arusha. A share of the vegetables were sold directly to hotels, the other share was sold on a local market, in which a sign was placed stating the vegetables were produced organically. However, without any additional institutional arrangement, it remains difficult to certify whether these products have really been grown organically.

Besides possible asymmetric information on production, there are other problems with determining the performance of the other party in fulfilling the terms of the contract. Through packaging, produce of an inferior quality may be hidden. In Arusha for instance, some vegetables are sold per bucket in street markets and we heard some buyers complain that the bottom of the buckets were filled with paper, instead of fruit or vegetables. In the markets for tomatoes we noticed that the unripe tomatoes were packed at the bottom of crates, while the best quality (red unblemished) tomatoes were packaged at the top. In fact packaging of tomatoes was such an important task, that collectors hired special packers for this. They apparently did not trust the farmers or local people to do this¹⁷ and bought tomatoes from the farmers in unpacked quantities. After purchase, the tomatoes were packed in crates in a

specific way: tomatoes of inferior quality at the bottom and top quality at the top, and all tomatoes are tightly packed together so that in transport they will not move about and become damaged. Thus the information asymmetry here is not between the farmer and collector, but between collector and subsequent buyer (wholesaler, retailer etc). Finally, although quality can be easily assessed by appearance, there are no agreed and standardized quality grades, leaving much room for negotiation between farmers and traders, and between traders (e.g. collectors and wholesalers).

Another source of information asymmetry stems from market conditions (e.g. prices). Many farmers we talked to complained about lacking up to date information about prices, which puts them in a disadvantaged bargaining position. Mobile phones have the potential to reduce this information asymmetry greatly, but in Tanzania farmers seem not to have profited much. Even when they have a mobile telephone (which is often very expensive), they have no contacts in the relevant markets to call. However, we did hear of an initiative by Celtel that offers a SMS subscription that will give regular information on market prices (which has also been introduced in Uganda by OneWorld).

Transaction risks are very and farmers and collectors spend much time bargaining over quantity, quality and price. They could, through repeated personal relationships, more quickly agree on quantity, quality and price and thus reduce transaction costs. However, when we asked market participants (in different markets in Tanzania), they specifically indicated they had no personal and exclusive relationships. The reason for this is not clear. Collectors may not have an incentive to decrease information asymmetry because they are the ones who profit most from it. In fact, we found that collectors have established a close-knit network by forming associations (which are divided according to market segment). Many farmers we spoke to complained that collectors collude on price agreements. Collectors we spoke to in the main Dar es Salaam Kariakoo market informed us that they coordinate amongst themselves where and from whom to source from, thus decreasing competition. Collectors do compete with other collectors from other markets, although even amongst collectors from different locations and associations price agreements seem to exist.

5.1.4 Coordination (connectedness to other transactions)

Coordination was defined as the extent to which transactions dependent on other transactions in the supply chain or in the sector. Producers first need to procure inputs (cash, seeds, fertilisers) before they can start producing and selling. In Tanzania, input markets are relatively undeveloped, with inputs are not available at the right time, in the right quantities or at the right quality. For seeds, the situation has improved after liberalisation. Nueno & Tschirley (2004) report that in Tanzania, liberalization of output markets was followed by revisions to the Seed Act. The Tanzanian law now allows and encourages seed to be produced at village level under what is termed Quality Declared Seed (QDS). This approach appears to have resulted in lower prices to farmers for some horticultural seeds, greater availability, and in at least one case (Mang'ola Red onion), development of a variety that has substantially improved Tanzanian competitiveness in regional markets.

Another example of need for connectedness among agricultural transactions is manifested by the lack of standard weights and measures which effectively reduce the costs of coordinating otherwise unrelated transactions by a range of actors. Produce in spot markets is not weighed and paid by kilogram, but by crate or bags (of standard size but they are usually topped up to 150%, a system that is called *rumbesa*¹⁸ in Tanzania), and locally used measures such as tins, debe, kosovo, can vary in weight. A report on several FFV sectors in Tanzania describes the

uncertainty about bag weight for onions (ECI, 2004). When the investigators weighed a sample in the main market in Iringa, the average weight seemed to be 120 kg with maximum variance of 20kg. However, Kariakoo market in Dar es Salaam insists that bags are 160 kg. Collectors in Tanzania seem to have the advantage over farmers in this and have demanded increasingly higher top-ups from farmers, while the price of a bag has not increased accordingly. However, we found a second reason why collectors favour big bags, and that is that cess tax is paid per bag to local governments by the collectors (see also 4.4). The more produce can be transported in fewer bags, the less tax is paid. The bargaining over weight and measures increases transaction costs.

5.1.5 The impact of the institutional environment on FFV markets

The FFV market is in general characterised by a weak institutional environment and lack of enforcement mechanisms. Chapter 4 described the institutional environment and we can distinguish three main effects on the spot markets.

First, the lack of capacity of governmental bodies to coordinate their actions and implement policies. There is no enforcement on standards and grades in the spot markets, although there is a Weights and Measures Authority. The lack of coordination can be illustrated by a report (ECI, 2004) that described how nearly all the vehicles that are used to transport FFV are overloaded. Transporters operating vehicles of over 5 Mt are legally required to pass over weighbridges. Traders face costs of compulsory weigh stations as well as illegitimate controls by police for bribes. The delays emanating from these “hold-ups” can cause the product quality to deteriorate and increase transaction costs. The Weights and Measures Authority is aware that transporters have developed a variety of methods to avoid detection and prosecution but is unable to intervene, as the weighbridges fall under the auspices of the Tanzania National Roads Agency (Tanroads) and the Ministry of Works. These government bodies put priority in the maintenance of highways.

Second, the influence of the District Offices especially on local cess taxes. Because taxes are levied by district government on bags instead of kilo of produce, traders have an incentive to increase the quantity of produce per bag. As farmers are paid per bag they receive a lower price when traders increase the amount of produce per bag. Negotiations about the volumes of bags increase transaction costs.

Finally, the lack of a well-functioning legal system also affects the agreements between buyers and sellers. Informal enforcement mechanisms or mechanisms that avoid disputes (such as bargaining, exchange, inspection and payment on the spot) are used to fill this void in the institutional environment. One could question whether market participants would use a costly legal system even if it were functioning given that the value of agricultural produce is low. However, what Kähkönen et al (2001) call “shadow of the law” could be useful in spot market settings. This is a situation where market participants can use the existence of a well-functioning legal system as a sufficient threat to enforce contracts. During the 2007 survey we heard an interesting example of this. In one of the villages where we interviewed farmers, we were told that a few weeks back there had been repeated thefts from fields. The village leaders invited a judge and some policemen over to the village and asked every villager to report any information about the thefts prior to their visit. Although the judge nor the police took any action, their visit to the village was enough to stop the thefts. One may question whether this initiative was appropriate in a legal sense, but it does illustrate how effective the “shadow of the law” can be.

5.1.6 Discussion

Potential transaction risks in FFV markets in Tanzania are high, and originate from different sources. The market participants all incur high transaction costs to protect themselves against transaction failures. Because of asymmetric information and the fact that different market participants have different possibilities to behave opportunistically, transaction costs incurred are distributed unequally.

Markets may be able to function to a certain extent in the absence of well-established formal rules through the use of self-enforcing contracts and informal institutions. However, the absence of some formal rules hampers the development of the FFV sector, e.g. through long-distance transactions and the development of transactions with high quality products.

Improvements in spot markets are possible, though. Box 1 gives an example of how spot market transactions were improved by establishing a new market place (Nyandira market). Besides improving infra-structure, two institutional elements seem to have contributed to the success of Nyandira market. First, the establishment of a market authority which manages the functioning of the market. However, to ensure that the MA functions well (in terms of transparency, decision-making) much was invested in capacity developed (through training courses). These investments may be seen as the transaction costs associated to institutional change. Second, part of the institutional environment was changed. Rules relating to weights and measures were imposed and enforced by the MA.

Box 1: Improving transactions in spot markets through the creation of Nyandira market

In Nyandira, a market was established consisting of a physical structure (with ramps on which trucks could easily offload, locked storage space etc) and a specific institutional arrangement to manage the market. This institutional arrangement consisted of establishing a Market Association (MA) that manages the market. Other markets in Tanzania are managed by the District Office. Members of the Nyandira MA (5 in total) are elected from various associations that already exist: the Road maintenance groups (with 56 members), the farmers' associations linked to MVIWATA (crop production with 600 members and livestock production with 86 members), the credit and savings groups (SACCOS with 300 members) and finally the traders' association (with 32 members). The MA members received training in management and other functions (e.g. accounting, financial reporting), thus increasing the organisational capital of the MA. The market is in operation every day during peak agricultural season and two days a week during off-season. It is financed by demanding fees for services (traders pay a fee per traded volume and producers pay a small fee per kilogram for the obligatory use of the weighing equipment). During high season, a profit is made which is put at the SACCOS to cover for costs during low season when income is insufficient to recover costs. The District Office (DO) owns the infrastructure, while the MA is in charge of the management and owns the furniture, weighting instruments etc. The MA pays a monthly fee to the DO, which can be considered as rent for the physical infrastructure.

Around 10.000 farmers from 11 villages bring their produce to the market, and this number is apparently increasing. The market has lowered transaction costs for both farmers and traders. Traders prefer to visit the market with its services and where many farmers bring their produce instead of going to several villages and farmers and waiting there until the produce is picked. Farmers prefer to go to the market as there are many traders and they have a better chance of selling their produce. In Nyandira market they also receive higher prices because

there is more competition among traders. In the beginning, traders would bring their own weighing equipment, although it was difficult to check how these were calibrated and whether they were reliable. Thus the MA installed the rule that all produce is weighed on weighing equipment that is owned by the MA and by personnel hired by the MA, thus increasing transparency and reducing information asymmetries.

Nyandira market has managed to solve several problems that exist in spot markets for FFV. It somewhat reduces the problems connected to perishability (temporal specificity). Farmers seem to be fairly confident they can sell their produce at Nyandira market for a higher price compared to selling to traders who visit the villages. There is no need to wait for traders, bargain and then pick the FFV. The traders also gain by buying at Nyandira market. They no longer need to wait for farmers to pick their FFV and are assured of a large range of supply at the Nyandira market.

Travel costs are somewhat reduced for traders. Although Nyandira market is located far away from the main roads, up the mountains where mostly vegetables are grown, requiring traders to travel over small winding mountain roads, traders can now source their produce from Nyandira market instead of visiting many dispersed farmers. The location of Nyandira market benefits the remote farmers up on the mountains, but disadvantages other farmers. We talked to farmers that would like to sell at Nyandira market but cannot because of the distance (and lack of transport).

Nyandira market has reduced information asymmetry by imposing rules about weighing produce, as well as by the fact that prices offered by different traders can now be determined fairly quickly and easily by farmers. It may not prevent collusion among collectors, but the fact that in Nyandira market higher prices are offered, may point at a higher degree of competition and thus less collusion between various traders. The MA of Nyandira market consists of representatives of the main stakeholders (farmers, traders, SACCO, road maintenance) and if there are disputes with regard to the behaviour of one of these groups, these can be solved by the MA. The MA can enforce decision by threatening to exclude traders or farmers from trading at the market.

The MA can also function as a powerful lobby to protect the interests of all market parties. The MA has for instance negotiated the level of cess tax that is paid to DO officials. Both traders and farmers have an interests in lowering these taxes. The MA thus allows for bridging distrust between marketing parties by building towards common interests and fostering mutual trust and collaboration. It has furthermore improved security by offering locked spaces for produce and cash.

Finally, certain coordination costs have been improved by centralising transactions that that used to be dispersed over 11 villages and some 10.000 farmers to one place, and to specific days of the week in the high and low season. It has not however, solved problems linked to missing markets for credit and inputs. However, Nyandira market has the potential to extend to offer such services as well. Space has been built into the market for small businesses and traders were seen to not only buy FFV but also sell produce that is not cultivated in the area such as grains and beans.

There are plans to use the market for selling inputs such as fertiliser.

5.2 *Contract farming*

As was outlined in section 3.2, contract farming refers to a range of initiatives taken by private agribusiness firms to secure access to produce. Companies provide services to farmers and in return receive access to some or all of the farmers' produce. Schemes typically involve the provision of inputs (seed, fertilisers, pesticides) on credit, often with extension advice, but may also include a range of other services such as ploughing and crop spraying. Costs are recovered when the produce is sold.

In Tanzania, two types of contract farming can be distinguished. First, collectors and farmers enter into *marketing contracts*, where the collector provides the farmers with credit or inputs that are repaid when the produce is sold by the collector. And second, a more extensive form of vertical coordination, can be seen as *production contracts* which include agreements on production practices, extension services, inputs supplied by the contractor, quality and quantity of the commodity and the price.

Marketing contracts were observed in only a few cases. One is in orange growing, although it appears to be rather uncommon in this sector and limited to relatively poor farmers who need cash on a short time notice. A study on the orange sub-sector in Tanzania (ECI, 2003) describes that the collector estimates on the basis of blossoms or unripe oranges on a tree the number of oranges and pays the farmer 25% of the purchase price upfront. The price will be around 1 TSh per blossom, compared to TSh 3 per ripe orange (2003 price levels¹⁹). The difference in price is a function of the risk the collector takes that not all blossoms will turn into ripe oranges, the interest rate of the upfront payment, and the fact that the collector is in a "take it or leave it" position with respect to the farmer who is in need of cash. Another case was a village in which farmers called the contract farming the 'ufasili system'. The farmers receive credit and inputs (e.g. seeds) from the trader. The profit is equally shared between the trader and the farmer.

Production contracts are a more common type of CF in which large scale farmers or processors enter into (formal or informal) contracts with smallholders to supply a certain product with particular quality requirements. We have observed various forms of contract farming in Tanzania, from large scale vegetable farmers (often Europeans) who in order to fulfill a contract with a supermarket contract small scale farmers, to flower and seed companies (usually European) that use contract farming, to a large processing company that uses spot markets and brokers for tomato and contract farming for fruits (pineapple). Processors usually demand fewer quality requirements, but need a minimum constant flow of produce, which may be difficult to attain in the off-season. Contracts become more formal when more stringent quality requirements are demanded such as Eurep/GlobalGap.

We found that contract farming is often combined with a PO. Apparently, the combination is often preferred by both producers and contractors. The reasons for this will be discussed below.

5.3 *Producers' organisations*

In their analysis of POs in Tanzania, Uliwa and Fischer (2004) estimate that there are more than 6,000 active POs throughout Tanzania, with a total membership of about 250,000

farmers. A total of 44 projects that support or promote POs were identified in 2004, with annual funding estimated at \$76.5 million. However, they remark that they found it difficult to obtain concrete data on the numbers of POs and the financial benefits that PO members were achieving. They divided support programs into six broad categories:

1. Providers of business training services to POs
2. Providers of financial services to POs
3. Providers of technical and extension services to POs
4. Organizations linking POs together for advocacy and policy formulation
5. Providers of group development and governance training
6. Organizations linking POs to markets

Some of the benefits of a PO outlined in the first section of this paper (see 3.3) are taken up by MVIWATA, which is the national network of farmers' groups in Tanzania. It was established in 1993 by small-scale farmers from several regions in Tanzania who wanted to establish a farmer-to-farmer exchange forum. MVIWATA has members in more than 100 local networks with some 1000 affiliations. Network size varies from 50-70 affiliated farmers groups, each with an average of 5-200 members. There are around 10,000 MVIWATA cardholders (Kaburire and Ruvuga, 2006). Its main tasks include lobbying, advocacy, training in agronomic management and marketing.

However, these POs usually do not engage in marketing. Considering that the transaction risks and costs in the FFV chain in Tanzania are very high, it raises the question whether some of these can be reduced by collective action on the farmers' part through a PO. POs may be able to overcome credit constraints, achieve a better bargaining position, or even find new outlets for their produce. In their study on POs in Tanzania, Uliwa and Fischer (2004) found only two examples of POs engaged in marketing: in coffee, supported by Technoserve, a US NGO; and in organic coffee, canned pineapple²⁰, cashew nuts and safflower oil produce, supported by the EPOPA project (Export Promotion of Organic Products from Africa), funded by Swedish Development Cooperation. MVIWATA focuses on strengthening marketing skills but this is limited to exchanging information (about markets and prices) and conducting market studies.

In our 2007 survey we have found very few self organised POs of farmers for the purpose of marketing²¹, although we did find several organised by an NGO²² or the District Office. One self organised PO of 12 members we found sells oranges (in Kilongo, Muheza). Their reason for establishing a PO in 1998 was the difficulty in obtaining credit. Some farmers would sell their oranges early against a low price. By organising themselves into a PO, they try to save money by regularly putting small amounts into a savings fund that can be used to provide credit to members that experience financial constraints. By bridging this constraint, the members do no longer need to sell their oranges early, and can wait for a higher price. We did not find any evidence of farmers organising themselves to bargain for a higher price with the collectors. In fact, one farmer remarked that they did not organise themselves into a PO because "that would be the end of the market, no collector would buy from us".

We found that most POs set up by NGOs seemed not very successful in improving marketing. The NGOs put much emphasis on training (e.g. in bookkeeping and agronomic practices), while marketing or "linking farmers to markets" seems to be a difficult issue. Sometimes contacts are made with buyers such as hotels, lodges, or supermarkets, which occasionally results in a contract. Experiments with connecting directly to markets (thus avoiding collectors) almost always failed. We heard a number of cases whereby a truckload of produce

(oranges, carrots) was sent to the main market (Nairobi, Dar es Salaam) but failed to obtain a reasonable price and turned out to be unsalable. Purchasers at such markets are not keen to buy directly from outsiders and prefer to keep the existing system in which they purchase only from collectors. This was confirmed by our interviews with wholesalers in the Kariakoo market in Dar es Salaam.

What emerges from our findings, is that a PO might help lower transaction costs in spot markets, but that it is not used as an instrument to increase the bargaining power of small scale farmers. When farmers undertake collective action to set up an PO, the costs of doing this (i.e. the organisational costs) need to be compensated by higher direct earnings, lower risk and/or more security of sales. However, in Tanzania, higher direct earnings do not seem to be possible for POs in FFV markets, because POs do not have any market power to demand higher prices. Nor do strong farmer-led POs seem feasible in contract farming for the export horticulture industry, which is still a relatively small sector in Tanzania, but which demands a high degree of organisational capacity of POs to comply with complex production processes and related monitoring. Uliwa and Fischer (2004) observed that most POs in Tanzania lack marketing and business skills and despite the efforts of lobby organisations such as MVIWATA and TCCIA²³, most small-scale farmers have little influence on policy at district level. The POs that do seem relatively successful are those that focus on extension and training.

5.4 *Contract farming with POs*

Because contract farming seems to be growing in East Africa partly in relation to the reduction in government procurement (previously handled by state marketing boards) and market regulation, growth in FFV exports and supermarkets, the number of POs engaging in contract farming has also been increasing. In Kenya for instance, several examples can be found of farmers who have organised themselves into POs to link up with exporters through contract farming²⁴. This was not found in Tanzania, however. This might be explained by the fact that the export sector for FFV and supermarkets which are often linked to CF, has not taken off in Tanzania (see chapter 6).

Some of the large scale farmers and companies we talked to in Tanzania said that in theory they would prefer to contract via POs as it would reduce their transaction costs but that there were several constraining factors. Some indicated that their scale of operation was too small to work with a PO and they preferred to work with short-term contracts for specific crops with a limited number of small holders. Others said that because they were producing for certified (Eurep/Globalgap) produce, they could not rely on a PO to implement all required operations under Eurep/Globalgap. Thus, even if they would work through a PO, they would still have to individually monitor all farmers, which would not reduce transaction costs. Some contractors prefer to work with individual farmers because they can select those who have the highest chance of supplying high quality. Two seed companies (multiplying stock seed) we interviewed used outgrowers scheme with smallholders. They train farmers and select those who perform best. This system of only working with farmers who excel may be at odds with working with a PO, in which farmers producing different quality are united. The costs (in terms of training and enforcement) of achieving the highest standard by all farmers in the PO may be extremely high.

A few contractors we interviewed did work with POs. However, in all of these cases the POs were established by the contractor. One large processing company for instance decided to establish a PO to produce (certified) organic pineapple. The processing company invested heavily in establishing the PO (organising elections to choose a leader, training the members in organic production etc.). Reducing transaction costs was an important reason to work via a PO. Instead of talking to several farmers on different issues, they preferred to communicate through the PO, and take up issues of farmers with the leadership of the PO.

Another contractor we interviewed had established an NGO to function as a market intermediary. This organisation used the following model:

- Family groups and clubs are established (25 family groups form a club);
- Each family group is required to use 0.15 hectares for a specific crop (in this case babycorn). In total a club cultivates 3.75 ha;
- A field (management) team is formed to provide training, etc.; this team takes care of all the (Eurep/GlobalGAP) paperwork, and also takes up other activities, such as spraying;
- The farmers only focus on cultivation;
- The harvests are exported via the export company (2 clubs form a society that signs an outgrowers contract with the export company).

The contracts in this model consist of two parts:

1. Fresh produce sub-contract: outgrowers + export company
2. Management sub-contract: outgrowers + NGO

As was pointed out in chapter 3, opportunistic behaviour by the contractor is a risk for the farmer, especially when the level of transaction-specific investment is high and there is a lack of alternative output markets. In Tanzania, we did hear complaints that contractors offer a very low price to the contracted farmers. Contracted farmers are limited in organising themselves into producers' organisations after they have signed individual contracts. A report on paprika contract farming is also relevant to note in this respect (ECI, 2004). A large company specialising in spices has started to procure and process paprika for export in 2000, sourcing from 49 farmers' groups and 7 large scale farmers. Seed supply is controlled by the company to ensure quality produce. But all other investments have been made by the farmers. As a response to the contractual requirements of the company, farmers have organised themselves into farmers' groups and formalised and registered the groups. However, the report indicates that the company is the only buyer in the country, which removes the farmers' ability to negotiate prices. It also poses a risk for the farmers when the company decides to terminate operations.

Vice versa, the contractor incurs the risk that producers will default on the supply agreement. When the contractor has made investments (e.g. cold trucks, airfreight to transport the produce at a certain point in time, or has made certain contract obligations with other buyers) there is a potential hold-up problem when the producers do not supply the correct quality, quantity or on the right time. One (European) farmer in Arusha complained about such problems when contracting one or two farmers to fulfill requirements for a supermarket order. In one instance, the farmer had not delivered on time, due to problems connected to the harvest, which had largely failed. The farmer had not reported this until it was time to deliver.

Difficulty of performance measurement (see 2.3.3) plays an important role in explaining the type of contract farming with POs as observed by us in Tanzania. Much of the contracted

produce has not only specific requirements in terms of size, quality, etc, but also in terms of specific production processes, such as organic production (no pesticides) or Eurep/GlobalGap certified production. This entails a significant information asymmetry and a potential moral hazard problem for the contractor. The farmers have information on whether they implemented all the required processes but the contractor does not, unless he monitors closely the implementation of the processes. Because monitoring entails high costs (in terms of time spent by the contractor or a supervisor inspecting the farmers' fields) the contractor will try to minimize this. In theory, the contractor could minimize monitoring by allowing the PO to take up the monitoring of its members. The contractor then only needs to monitor whether the PO has been fulfilling this obligation (e.g. by random inspections of members). When we asked contractors in Tanzania whether they employed such a system none of them did. The most important reason indicated for this is that the capacity of the PO was not sufficient to implement such a monitoring scheme. Especially with respect to Eurep/GlobalGap, the requirements are very specific and numerous. When the correct production processes have not been implemented, the contractor might lose his contract with the next buyer (e.g. exporter or supermarket), which could entail very high costs. Most contractors we spoke to thus preferred to contract individual farmers. In sum, the connectedness between the farmer-contractor transaction and the contractor-supermarket transaction leads to high (potential) transaction costs, which results in the contractor choosing a particular institutional arrangement such as contract farming.

5.5 *Summary*

Potential transaction risks in FFV markets in Tanzania are high, and originate from inherent uncertainties regarding FFV production; thin markets combined with perishable produce leading to temporal specificity and specific growing conditions leading to local specificity; asymmetric information leading to difficulties in measuring performance of the other party in fulfilling the terms of the contract, which all facilitate opportunistic behaviour in spot markets. Market participants incur high transaction costs to protect themselves against these transaction risks. The institutional environment in Tanzania is characterised by a lack of enforcement mechanisms, such as for enforcing quality standards and quantity measures or for dispute resolution that would reduce pre-contractual and post-contractual transaction costs. In some cases certain policies by government bodies actually increase transaction costs, such as by imposing high cess tax rates. We have seen that it is possible to improve spot markets, but only through high investments in not only improved infrastructure (market place, weighing equipment, storage facilities) but also in capacity development so that a Market Authority could be established who represent the market participants, establish and enforce rules, increase transparency etc. This highlights the fact that institutional change is possible without major changes in governmental bodies or policies, but will probably be very costly.

Other institutional arrangements such as different types of contract farming have emerged but only under certain conditions, depending on specific features of the products, firms, communities and contractual arrangements involved. Marketing contracts are well-known but not widely used. In these arrangements the buyer (collector) reduces the producer's uncertainty of locating a market for the harvest and pre-financed the production. However, the producer receives a substantially lower price for the produce. This type of arrangement is therefore only used by producers who are in need of credit and have few alternative sources. In a few cases we have seen resource-providing contracts whereby the collector not only

provides a market outlet for the product, but he also provides key inputs, usually fertiliser or seeds. Such contracts thus improve coordination between input and output markets.

Production-management contracts have emerged with the development of the supermarkets and the export sector, which usually require specific products of a specific quality. Under this type of contract, producers agree to follow precise production methods and input regimes required by for instance Eurep/GlobalGap or consumers' demands in export markets.

The combination of production contract farming with a producer organisation is preferred by contractors because it reduces transaction costs (in terms of communication, training, dispute resolution). Most POs in production contract farming have been initiated by contractors (occasionally with the help of NGO which provide training). It is uncertain though, to what extent these POs can take up other functions such as bargaining and lobbying because they seem to be rather dependent on the contractor.

In general in Tanzania, hardly any independent, farmer-initiated POs exist that engage in marketing, especially in the FFV sector (although some examples have been found in cash crops such as coffee). The main reasons seems to that the costs of establishing a well-functioning and transparent PO requires substantial organisational skills and investments. These will be justified when farmers will benefit financially, e.g. through receiving a higher price. However, this appears to be unlikely as farmers have very little market power, even if the organised themselves in a PO. Because there are many farmers producing FFV, collectors could easily terminate purchasing from the PO.

6 Institutional environment: comparison with other east African countries

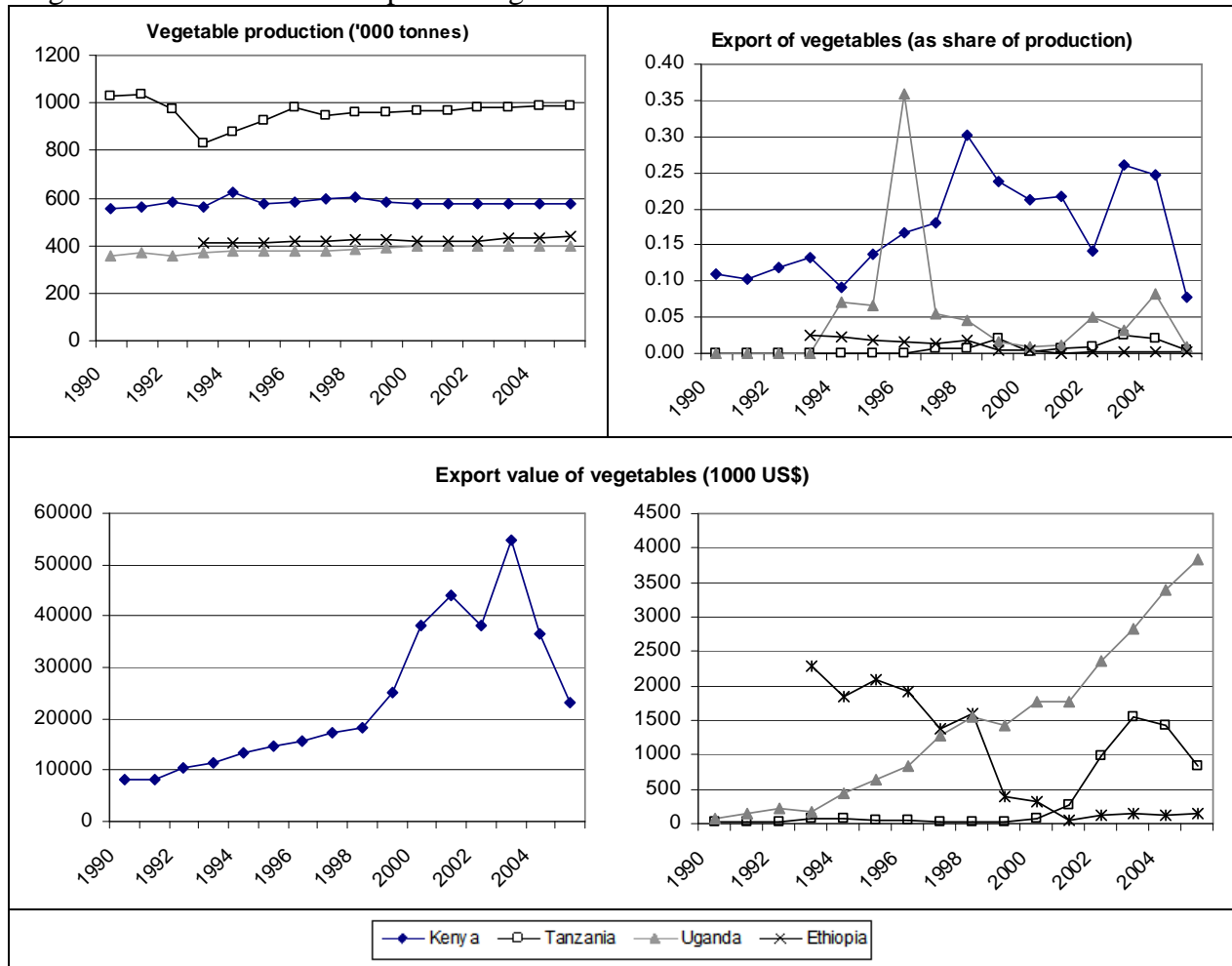
In section 4 we have analysed the different institutional arrangements for FFV in Tanzania. In this section, we will draw a few comparisons with neighbouring countries Kenya, Uganda and Ethiopia. Although the domestic markets for FFV sectors are comparable in these countries, the higher value market segments (export and supermarkets) have developed differently. Kenya has been very successful in promoting export horticulture and the number of supermarkets has increased rapidly in recent years (Neven and Reardon, 2004). The export value of vegetables has increased in Uganda during the past decade and Ethiopia has started investing in export horticulture (with a special focus on flowers) and attracting foreign investments. Tanzania seems not as successful. We will focus on the differences in institutional environment and the (macro-economic) policies pursued in the four countries and how these have shaped the FFV sector as well as the types of institutional arrangements that have emerged. We start by giving an overview of the (export) FFV sector in each country and will then describe the government policies with respect to the FFV sector in each country and the governance structure.

6.1 *The fresh fruit and vegetable sector: an overview*

Vegetable production constitutes only a small share of arable land in East Africa. For Tanzania this is 6%, Kenya 3%, Uganda 1% and Ethiopia less than 1% (FAOSTAT, 2007). Vegetables include many different crops, some are mostly for local consumptions (such as cabbage, onion and tomato) while others are more geared towards export markets (e.g. paprika). Over the past decade, production has slightly increased according to official statistics, although it is difficult to assess their reliability (figure 11). Most vegetables are produced for the domestic market and only part is exported.

Exports vary considerably across years (figure 11). Export shares are highest for Kenya and rather low for Tanzania (FAOSTAT, 2007). The export values of vegetables are highest for Kenya, with over 20 million US\$ in 2005, although they have come down relative to the peak year of 2003 when the export value was over 50 million US\$. The value of vegetable production sold and consumed domestically in Kenya is even larger than the value exported in fresh and processed form (four-fold). In Ethiopia, Tanzania and Uganda the value of exported vegetables is much lower. Uganda has seen an increase rise in export value since the mid-1990s, while in Tanzania the export value has only started to increase after 2000. In Ethiopia the export value are negligible: horticultural products' share in total exports from 1994 to 2001 was 6% in volume and below 2% in value terms (Mussa and Greenhalgh, 2007).

Figure 10: Production and export of vegetables 1990-2005



Source: FAOSTAT | © FAO Statistics Division 2007 | 23 April 2007

6.2 Government policies in East Africa

Behind the figures presented in figure 11 are different government policies. In this section we will review how government policies in Kenya, Ethiopia, Uganda and Tanzania have shaped the FFV sector, with a special focus on the export sector.

6.2.1 Kenya²⁵

The horticultural sector has a relatively long history in Kenya, which began in the late 1950s. The development of the horticultural sector in Kenya has been gradual and eclectic, with many ups and downs involving many different actors. It is primarily a private sector story, with entrepreneurs and farmers innovating and taking chances. The government has played an ambiguous role, being broadly supportive but occasionally interfering. For instance Kenya's experience in promoting joint ventures between foreign companies and state enterprises was almost uniformly unsuccessful.

After independence the agricultural sector was dominated by government parastatals (boards and cooperatives) which were intended to assist producers in processing and marketing of important (export) commodities such as coffee, tea, pyrethrum, and maize. They provided a market for farmers and some would offer crop insurance through guaranteed minimum returns

to farmers. In the period when these parastatals were well managed, the agricultural sector performed relatively well. However, by the mid-80s, it was becoming evident that because of mismanagement, marketing through government owned parastatals could not be sustained. The corruption and mismanagement of the parastatals led to inflated marketing costs, reducing farmers' prices. In 1986, the government introduced a sessional paper on Renewed Growth and Economic Management which recommended that the economy should be liberalised by removing government monopolies and encouraging the private sector. The reform did not result in the desired economic recovery of the agricultural sector. Reasons included hurried implementation without adequate preparation for some components and reluctance to undertake reform for other components, aggravated by frequent reversals, a lack of ownership by government agencies, poor sequencing and lack of synchronisation with other policies and finally a poor response by the private sector due to the unattractiveness of agriculture especially in remote areas and for low value bulky crops. The result was that marketing of most commodities in disarray and in some cases a total collapse of the industry, such as for cotton. Some parastatals continued to operate (e.g. the Pyrethrum Board of Kenya or the Coffee Board). Only during the 1990s did the sector slowly recover.

In contrast, the FFV sector in Kenya experienced relatively little government interference and was therefore also relatively unaffected by the poor implementation of reform. The production, wholesaling, transport and marketing of FFV had largely been performed by the private sector and success of the FFV sector in Kenya has been attributed to this. However, it should be pointed out that some government policies did support the sector.

One was the establishment of the Kenya's Horticultural Crop Development Agency (HCDA) in 1967, which was run by a board of directors appointed by the Minister for Agriculture. It has had a facilitative role, attempting to coordinate various participants in the industry rather than directly intervening as a buyer in the market. In the 2001 Horticulture Bill a new set-up for the HCDA was proposed, whereby the board of directors would include representatives of consumers, processors and exporters as well as the government and a subsidiary trading company under the HCDA to deal with export marketing. The Bill also included increased attention for improving domestic marketing of horticultural crops. After the liberalisation agenda, the HCD Authority Order removed controls on cultivation, picking, purchase and sale of crops and planting materials, crop inspection, transportation and marketing of horticultural crops and establishment of processing factories. This paved the way for rapid expansion of the private sector.

The Fresh Produce Exporters Association of Kenya (FPEAK), established in 1975, also plays an important role in export markets. It represents the interests of horticultural companies. It grew from 7 members to 58 members currently, consisting of growers and exporters of FFV (as well as flowers). The association provides members with various services: lobbying for the interests of the horticultural industry in Kenya; providing marketing & technical support and information; promoting members compliance to international standards; and administering KenyaGAP, an internationally recognized Code of practice for the horticulture industry. Coulter *et al.* (1999) provide an interesting example of the role of FPEAK on the link between PO and contract farming: "In the outgrower schemes promoted by the Fresh Produce Exporters' Association of Kenya (FPEAK), farmers are organised in small groups of 15 to 20 to obtain information, inputs, and technical and quality assistance."

A policy of relative non-interference combined with supportive organisations that represent the interests of the FFV (export) sector has led to its success. The export market involves a

few large scale company farmers, an increasing number of contracted commercial horticultural farms and a declining but still significant number of contracted smallholder farms. Production contracts have thus become an important institutional arrangement for FFV in Kenya.

Besides an increasing export sector, the role of supermarkets is growing and spreading out of Nairobi's middle and upper class areas into poorer areas and rural towns and cities. The emergence of supermarkets has implications for the institutional arrangements for marketing FFV. It has led to an increase in production contracts because most supermarkets apply stringent private standards regarding pesticides and microbial residues, as well as quality requirements regarding size, colour, etc. This is why most supermarkets do not procure their produce from wholesale markets. Supermarket supply systems will increasingly determine the conditions and the potential for domestic producers to sell food products to the domestic urban markets, so that the distinction in quality requirements between export and local food markets will disappear (Weatherspoon *et al.*, 2003; Neven and Reardon, 2004; Mayer and Fajarnes, 2005).

6.2.2 Ethiopia²⁶

Although the export sector for FFV has been very small in Ethiopia, privatization of state enterprise, promotion of commercial FFV production and exports have become part of the Government's policy towards economic growth and poverty reduction (as formulated in the Plan for Accelerated and Sustained Development to End Poverty or PASDEP; September 2006). The Ethiopian government has set out to create a more favourable investment climate (especially for FDI) and a more enabling environment for private sector development.

One of the strategies employed by the government to create an enabling environment is making available relevant resources, especially land, which can be obtained with relative ease and without size restrictions. Land is considered state property and a company can easily obtain access to land to develop export production.

Investing in export projects is facilitated by a number of factors. The Ethiopian Development Bank lends 70% of required capital at a rate of 6.5% to export projects, without restrictions on nationality. The Ethiopian Government has also established the Ethiopian Investment Authority (EIA) to serve as a "one-stop shop" for investors. Besides investment promotion, the EIA provides information, receives and approves investment applications and permits. Furthermore the Ethiopian government provides a five-year tax holiday and an exemption from VAT and duties on imported inputs and has introduced duty draw backs, duty free import, income tax holidays, custom warehouse facilities, export guarantee schemes, etc. Finally, Ethiopia–EU exports have been assisted through the provision of air-freight capacity through the producer formed Ethio-Horti Share Company, which organises regular horticulture freight shipments, particularly for the rapidly expanding cut flower sector.

As a result of these policies, the number of large-scale private commercial farmers is increasing. Large state farms that dominate the production and export of fresh fruits and vegetables are slowly being privatized (although several still exist). The Ethiopian government also sees small-scale farmers as key players in the Agricultural Development-led Industrialisation (ADLI) strategy of the government.

However, there are still several limiting factors. The main constraints are poor physical infrastructure, energy, transportation, the unavailability of a skilled labour force and the

remaining bureaucratic procedures in acquiring essential inputs such as fertilizers, pesticides and herbicides. The domestic FFV markets have received less attention than the export sector and face several additional difficulties. In general, producers lack information on the distribution of fruit and vegetables in Addis Ababa and the preference of the consumers. Similarly, retailers including supermarkets have limited knowledge of farm gate prices. This lack of market information has affected both small-scale producers as well as relatively large-scale commercial farmers (Mussa and Greenhalgh, 2007).

For export production, the access to technology and support seems to have been limiting. Commercial farmers wanting to invest in FFV need to make choices on feasibility and technology which require detailed work, including the availability and access to necessary technical data. National supporting organisations in this area do not exist and consequently there is a lack of assistance. Currently, large scale farmers rely on technical assistance provided by a Kenya based organization, the Agricultural Production Development Fund (APDF) and a foreign expert consultant.

Because the private involvement in the FFV sector in Ethiopia is still relatively recent there is not much information available on the institutional arrangements such as contract farming or a combination of contract farming and POs. Few private investors are for instance involved in the expansion of banana, oranges, mangos, pineapples. State enterprises like Upper Awash Agro Industrial Share Company and Efruit still dominate the production and marketing of (domestic) fruit business.

Ethiopia has had a long (and tumultuous) history with cooperatives. During the military regime (the Derg, 1974–1991), a communist-style approach was taken and cooperatives played a major role in this. The largely negative experiences of cooperatives led to their dissolution following the fall of the Derg. However, after 1994, the Government of Ethiopia expressed renewed interest in collective action to promote greater market participation by smallholders. Subsequently, in 2002, the Federal Cooperative Agency of Ethiopia was created. Its five-year development plan (2006–2010) aims to provide cooperative services to 70 percent of the population. In 2005, the percentage of districts with at least one cooperative reached nearly 35 percent, although this national average hides important disparities across and within regions. Bernard *et al.*, (2007) find a positive and significant impact of membership of cooperatives on price through better market opportunities, higher bargaining power, or reduced transaction costs. However, successful cooperatives tend to be located in places with better market access and lower exposure to environmental and price risks, and cooperative members are better educated and farm more land. Membership in cooperatives remains low though (less than 10 percent). Poorer households in a given community appear to be less likely to participate, although the cooperatives themselves are meant to be non-discriminatory. Bernard *et al.*, (2007) indicate that farmers have a sense of suspicion and wariness of cooperatives, which has continued beyond the era of the Derg regime when cooperatives were used to extend strong government control to the local level and promote socialist ideology through compulsory participation.

Ethiopia shows that focused and supportive policies from the government can foster growth, as is illustrated by the export sector. However, the success of government interventions in the cooperative movement seem to be mixed. In favourable conditions with better market access and lower exposure to risks they seem to serve the marketing requirements of farmers that are relatively better off. In less favourable areas and for poorer farmers they are less effective. In

general, there is also a degree of distrust with respect to government involvement in cooperatives.

6.2.3 *Uganda*²⁷

Since 1986, when president Museveni came into power, the government (with the support of foreign countries and international agencies) has tried to rehabilitate an economy decimated during the regime of Idi Amin and subsequent civil wars. It has started a program of liberalising input and output markets, trade, investment and tax regimes, and has reduced the direct involvement of the government in production and commercial activities. Marketing boards (for coffee, lint and food crops) have been privatised. The government's efforts to enhance the performance of agriculture to alleviate rural poverty did not achieve the expected results, largely due to the low world prices for commodities such as robusta coffee, traditionally Uganda's main export crop and foreign exchange earner. However, the higher value horticulture crops such as flowers, young plants, and vanilla have become the fastest growing export sector with values increasing from approximately \$22 million in 2000 to more than \$40 million in 2002. The export value of florals has almost quintupled since 1995 and still growing while export value for vegetables has been growing steadily over the past decade (see Figure 10).

Several associations have been set up to promote the interests of the FFV sector. The Horticultural Exporters' Association (HORTEXA) organizes growers and exporters of horticultural products to increase production of high quality fruits, vegetables and spices for export. It assists horticultural farmers to obtain the right inputs and adopt internationally acceptable farming practices, establishes post harvest and packaging standards and lobbies the government and advocates favourable policies by acting as a link between policy makers and horticultural farmers

Besides HORTEXA there are also the Association of Fresh Produce Exporting Companies (AFPEC), the Uganda National Farmers Federation (UNFFE), the Federation of Association of Uganda Exporters (FAUEX), the Vanilla Exporters Association (VANEX), the Uganda National Vanilla Association (UNVA) and the Uganda Flower Exporters Association (UFEA). UFEA has set up the Fresh Handling Air Cargo, its own cool store and handling facilities at Entebbe Airport. Run as a commercial operation, Fresh Handling Air Cargo helps to ensure proper handling and procedures for exported produce. Uganda was also one of the earlier ACP countries to recognize the importance of developing a social and environmental Code of Practice that was subsequently incorporated into the Europe-Africa-Caribbean-Pacific Liaison Committee (COLEACP) harmonized Code, which has now been overtaken by other codes such as that under the Dutch MPS scheme²⁸.

Despite the government policy of liberalisation and the FFV sector's success in exports, there have been several problems. The private sector has little trust in many public institutions, especially in the ability of courts to enforce contracts and collect debts, and the competence and ability of public sector institutions dealing with trade and taxation (e.g. the Uganda Revenue Authority). A study of Ugandan firms showed that corruption is perceived to be one of the most serious impediments to business, especially in the formal sector and that corruption hurts investment and growth more than taxation. Despite liberalisation and reform of the financial sector (more effective supervision and enforcement, opening the sector to foreign banks), banks in Uganda are still not very efficient. They usually have excess liquidity, while businesses have difficulties in procuring affordable capital.

The performance of government agencies is characterised by much bureaucracy. Public responsibilities for handling trade issues for instance is fragmented among numerous ministries and agencies (e.g. agriculture, foreign affairs and regional cooperation, justice and constitutional affairs, Uganda Investment Authority, Export Promotion Board). Besides, Uganda still lacks capacity in supportive institutions such as developing and enforcing rules of standardization and quality assurance.

6.2.4 Tanzania²⁹

Despite the good growing conditions around Arusha and Moshi in the north, the export of FFV has not taken off as in some of its neighbouring countries. The horticultural sector faces several obstacles.

Although the government claims to be pro-business by encouraging international investment, private management of infrastructure and continued streamlining of the “costs of doing business”, the private sector expects more effort from the government in facilitating business and trade. The government of Tanzania seems to be less active in promoting the FFV export industry than its neighbouring countries Kenya, Ethiopia and Uganda. Although export horticulture is mentioned in several policy documents, there is no clear policy framework for the development of the sector as a whole and the export sector in particular. According to Nyambo and Verschoor (2005), the industry is not given much weight by the government because it is considered as a non-traditional, relatively unknown and risky business. Several constraints therefore remain that limit the growth of the horticultural export sector.

The procedure for registering and complying with approval procedures for pesticides for instance is cumbersome: it requires field testing (3 consecutive crops) verifying effectiveness, registration costs around 5.000 USD and takes up to one and a half years. Illegal imports and sale of unregistered chemicals are common.

Cargo services are limited. Often production is transported to Nairobi via the Namanga border crossing for export, which results in additional costs, delays and the inevitable risk of quality loss. Only high value produce (such as cuttings), which is labour intensive seems to be sufficiently profitable to warrant investments and hiring air cargo.

Laboratories, standards and certification are missing. In our 2007 survey it was reported that to circumvent export hassles, some exporters re-label Tanzanian goods as Kenyan. The Tanzania Certification Board was established recently with support from USAID and ADF to certify, conduct studies and establish laboratory facilities (this will be done through USAID money). The Tanzanian Board of Standards has also started recently to set standards (grades) for vegetables and fruits and testing programs. TanCert is the only body that provides services for inspection, certification and quality assurance, but only for organic produce. It was seeking accreditation with IFOAM (International Federation of Organic Agriculture Movements) in 2007. Certification used to be done in Kenya by KEBS and private companies. Some interviewed mentioned the KenyaGAP as being useful to Tanzania to obtain quality. Apparently efforts are underway to establish an East African organisation (with 8 East African Countries) to develop networks and implement KenyaGAP.

Tanzania Investment Centre (TIC) provides weak support for issues such as the exemption of payment of duties or value added tax on inputs and investment goods, allowance to carry losses forward, facilitation of obtaining work permits and land leases. Horticulture exporters for instance, are reimbursed for duty and VAT payments with long delays (two years).

To address some of the obstacles, main horticultural exporters (mostly European) have set up the Tanzanian Horticultural Association (TAHA) in 2000. It now has 45 members with 13 large producers involved in the production and export of cut roses, vegetables, flower cuttings, fruits and seed and 32 associate members including professionals in different fields, small growers groups and associations, consultancy companies, development partners, etc. TAHA engages in lobbying and advocacy, information dissemination, technical support and promotion of the horticultural sector and members products. The association is still relatively small.

6.2.5 Conclusion

There are several similarities between Kenya, Ethiopia, Uganda and Tanzania. All have transitioned from a government-led economy, with a strong focus on cooperatives and state marketing bodies to a more or less liberalised economy. Reforms were occasionally implemented inadequately or not at all. Not all government-led bodies have been privatised, such as some export commodity parastatals or some state farms. In all four countries, the government saw the FFV sector as relatively unimportant and consequently has not intervened much, leaving relatively much room for the private sector to engage in FFV marketing. Only in the past decades has the horticultural sector become an important export sector. The government of Kenya was the first to support (but not intervene in) export horticulture by establishing supporting facilities, and the sector has been very successful. It was accompanied with a rise in supermarkets thus raising the value of FFV for domestic consumption. Institutional arrangements such as contract farming (with small-holders) have increased as a result. Uganda has followed largely the policies of Kenya later on and also its horticultural sector for export and supermarkets has increased. Ethiopia's effort to stimulate export horticulture (especially in cut flowers) is relatively recent. The government of Tanzania, by contrast, has lagged behind in creating an enabling environment. Although it purports to stimulate horticultural exports, it has failed to provide some of the necessary facilities. Some interviewed have pointed at a chicken and egg problem: the government is reluctant to invest in a sector that as yet has no critical mass. But to attain this critical mass, some government investments are needed.

In Tanzania and Ethiopia, supermarkets play a much smaller role than in Kenya and Uganda, thus limiting the possibility to produce high value FFV for domestic consumption. Because of this, and a limited horticultural export sector, institutional arrangements such as production-contract farming are scarce in these countries.

Ethiopia and Tanzania have had long histories with a government-coerced cooperative movement. After liberalisation, the governments of these countries still stimulate cooperatives in a top-down manner, although membership is no longer obligatory. Farmers in these two countries, however, have become distrustful of such cooperatives, hesitant to hand over decision power. The success of cooperatives in these two countries is mixed, at best. In contrast, in Kenya, less emphasis has been put on cooperatives and farmers are less distrustful of associating themselves.

6.3 Governance

While the previous section highlighted differences in policies regarding the high value FFV sector, this section will highlight the overall governance framework, which is often linked to

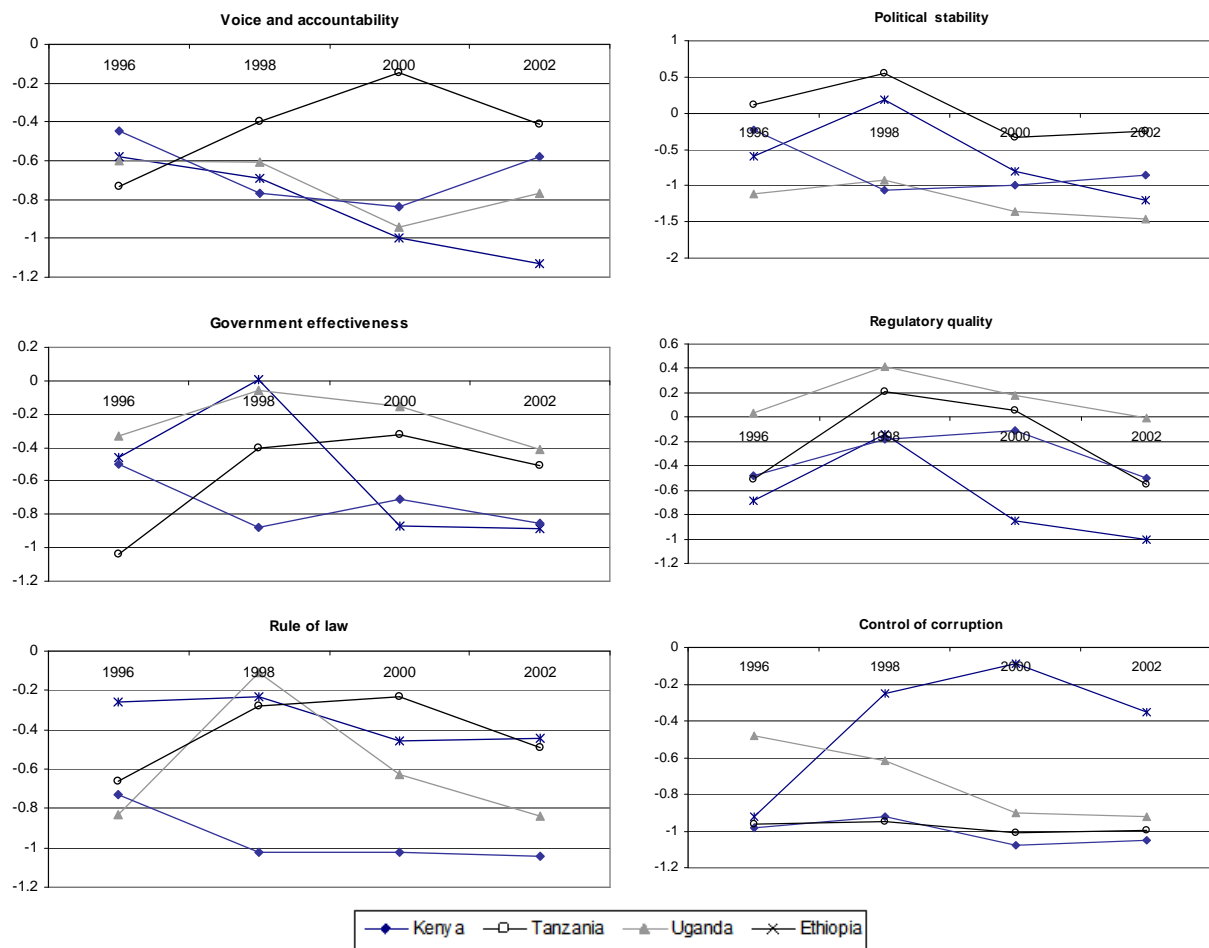
the institutional environment. The East African countries are in general characterised by weak institutional capacity and a relative high degree of corruption in the public sector (Transparency International³⁰). In general, corruption poses high costs on society. Rent-seeking activities of government officials negatively affect the quality of public service delivery (Fischer, 2006). It leads to high expenditures in non-priority sectors, poor investment decisions, major underfunding of critical expenditures in health, education and infrastructure.

The World Bank distinguishes six different indicators for governance, which can be interpreted as an indicator for the capacity of the institutional environment:

1. Voice and Accountability
2. Political Stability
3. Government Effectiveness
4. Regulatory Quality
5. Rule of Law
6. Control of Corruption

Figure 11 shows these indicators for Tanzania, Kenya, Uganda and Ethiopia³¹. Kenya scores the worst for all indicators, which are below zero and which have deteriorated the past decade, except notably the one for government effectiveness. By contrast, for almost all the indicators, the situation in Tanzania has improved since 1998, be it not much. The maximum score a country can obtain is 2.5, and the scores for Tanzania are well below this. For Uganda, the indicators have slightly deteriorated the past decade. Political stability in Uganda is the lowest of all four countries, due to the presence of the Lord's Resistance Army (LRA) in the North and East, which seeks to overthrow the Ugandan Government, and which has murdered and kidnapped civilians since 1986³². In Ethiopia, after an improvement in 1998, most indicators deteriorated. It is interesting to note, however, that control of corruption has improved significantly, relative to the other countries.

Figure 11: Governance indicators for East Africa, 1998-2002



Source: The World Bank, <http://info.worldbank.org/governance/kkz2002/tables.asp> Accessed on 10/12/07
 NB The scale is from -2.5 to +2.5 where -2.5 is worst and +2.5 is best

The World Bank also lists indicators for doing business³³. Many of these reflects the relative weakness of the institutional environment, such as dealing with licences, in which Tanzania is the 8th worst performing country in the world. In contrast, Kenya, Ethiopia and Uganda score much higher on this. However, on other indicators, namely trading across borders, starting a business, protecting investors and enforcing contracts, Tanzania fares slightly better than its neighbouring countries (Table 2). It is interesting to note that Kenya generally scores worst compared to its neighbours on the governance indicators while it generally scores highest on the doing business indicators.

Table 2: Indicators for doing Business in East Africa 2008 (rank out of 178 economies)

Indicator	Tanzania	Kenya	Uganda	Ethiopia
<i>Ease of Doing Business</i>	130	72	118	102
Dealing with Licenses	170	9	81	58
Registering Property	160	114	163	147
Employing Workers	151	66	11	89
Getting Credit	115	13	158	97
Closing a Business	109	76	48	70
Paying Taxes	104	154	55	29
Trading Across Borders	100	148	141	150
Starting a Business	95	112	114	106
Protecting Investors	83	83	122	107
Enforcing Contracts	35	107	119	77

Source: (World Bank, 2007a)

6.4 Discussion

The history of Tanzania shows that its Ujamaa socialism has had a great impact on how marketing arrangements were shaped, also in the spot markets. Government involvement was extensive; it specified in part what farmers should grow, which crops to sell to whom to sell and at what price. Traders were regarded with suspicion because they were thought to be exploitative. This is illustrated by the quote from Nyerere that capitalism “seeks to build a happy society on the basis of the exploitation of man by man” (see also endnote 11).

While traditional export crops and some of the staples such as grains were heavily regulated, FFV were relatively unaffected by government regulation. In part because they were an economically unimportant crop and in part because of their perishability, it was difficult for the government to handle them in a quick and efficient way. Only when the economy became more liberalised and traders assumed a greater role, farmers began to grow more FFV. For farmers, FFV represent a “fast crop”, which can be harvested several times a year and thus securing a cash flow that is spread over the year (as opposed to “slow crops” that can be harvested and generate cash once a year).

Export of FFV is still lagging behind that of Kenya and even Uganda. Although the government of Tanzania claims to promote export horticulture, and is putting some of the necessary policies in place, it is not actively pursuing policies and setting up agencies that facilitate and support the private sector in exporting horticulture. In contrast, Ethiopia, which is lagging behind also, is putting such policies in place. The lack of horticulture export has resulted in a relative low degree of contract farming in Tanzania. Because the institutional arrangements in horticulture export are changing rapidly (from contract farming with smallholders to contracting with large farms), it might be expected that when export horticulture takes off in Tanzania, the institutional arrangements used by exporters might be different from contract farming with smallholders.

Tanzania has had a long experience with cooperatives. Government involvement has been pervasive, with the government establishing the cooperatives, putting in place management and defining the rules. Farmers had no authority over them, and little influence to change things or make their own decisions. Many cooperatives were ineffective and inefficient and

subsequently collapsed. Some of them remained after liberalisation, but the farmers in Tanzania have developed many misgivings about centralised cooperatives. They also have had few chances to develop experience on how to run a cooperative democratically in a transparent and accountable way. Although there are now many new cooperative organisations in Tanzania, some relatively successful such as the SACCOs, there are very few producers' organisations that have been initiated by farmers, as well as few POs involved in marketing.

Very few combinations of PO involved in contract farming can be found. This can be explained by the small horticulture export sector, which diminished the scope for contract farming, and the fact that there are hardly any effective POs involved in marketing export FFV. Most POs have been initiated by the contractor and have very little bargaining power.

It is interesting to note that Kenya, which has been so successful in export horticulture, scores lowest on many of the governance indicators. This poses the question whether a "good governance" is indeed a necessary requirement to promote a successful expansion of export horticulture. Dolan and Humphrey (2000:160) have analysed the governance in global horticulture chains and point out several factors that have facilitated the horticultural boom, including:

- Non-interference by government in the commercial dimensions of the business.
- Preferential trade agreements such as the Lomé Convention.
- The achievement of sub-regional/cross-border economies of clustering, which provides a critical mass of activity for technical learning, market information flows, the development/spread of trained manpower.
- International technical and marketing strategic partnerships which have assisted in technology transfer, logistics, market penetration, and the creation of a market identity for African products.
- The effective coordination of internal and international logistics at the industry level, involving intra-firm co-operation.

Fischer (2003) compares Tanzania and other east African countries with respect to agricultural exports. Kenya and Tanzania had the same export levels in the 1970s. Since then however, Kenya's agricultural exports (especially horticultural products) have grown steadily, whereas Tanzania's have stagnated. The main policy differences between the two countries were (and still are):

- Government intervention in the economy was much greater in Tanzania
- There is stronger agricultural research and extension for export crops in Kenya
- Marketing boards have much greater control in Tanzania than in Kenya
- Kenya taxes agricultural exports at a much lower rate than Tanzania

This confirms the analysis of Dolan and Humphrey, as well as our findings in the previous sections. The high government intervention in Tanzania has, in fact, slowed down progress in agricultural exports.

This seems to indicate that a situation in which there is little "good governance" (according to the criteria listed above) but in which there is very little government interference in the commercial dimensions of the business, combined with high scores on indicators on "ease of doing business" is preferable to a situation in which there is slightly better "good governance" (although by all standards not a great one), but in which there is strong government intervention. However, we need to point out that the lack of good governance is linked to high

levels of corruption and rent-seeking. Fischer (2006) points out in his book about rent-seeking in Africa that this is usually at the expense of the less powerful groups in society, which include for a great part the poor. It remains to be seen therefore, to what extent a successful export horticulture combined with corruption and rent-seeking has had an impact on equity and poverty reduction.

7 Conclusion

This paper has examined how alternative organizational arrangements for marketing fresh vegetables in Tanzania compare in terms of transaction costs, and to what extent any differences can be explained by the characteristics of the product, market, supply chain, quality requirements, and farmers. The following arrangements were considered:

- spot market
- marketing by a producer organization (PO)
- contract farming
- contract farming with a PO

A rather simple yet fundamental proposition arising from this research is that transaction costs in FFV markets in Tanzania are high. As these costs were not directly measured, it is not possible at this stage to substantiate this in quantitative terms. Nonetheless, discussions with various actors in FFV supply chains strongly suggests that the costs, primarily in terms of the time of farmers or traders in the three stages of contact, contract and control are high relative to the costs of production and market prices. The magnitude of transaction costs probably plays an important role in inhibiting two kinds of improvements from taking place: an increase in the scale of production and marketing; and a greater use of contract farming or other more sophisticated arrangements (e.g. auctions) to improve the quality (value) of products.

Growth in production and incomes in the FFV chains will have to come primarily from decreases in either production costs or transaction costs (ignoring any sudden increase in demand such as through new export markets). The observations made in this research seem to indicate that reductions in transaction costs need to be found in order to facilitate the adoption of measures that decrease production costs (or improve quality), which are generally already available in the form of improved cultivation and post-harvest technologies.

The spot market is the most common institutional arrangement by which FFV are marketed in Tanzania. It is characterised by a procedure in which certain quantities of FFV are ordered, inspected, their price bargained over, and packaged in one spot and in a very short period (less than one day). Trading partners choose a spot market arrangement because of the risks emanating from asymmetric information and from the possibility of defaulting on contracts. Such risk exist in a situation that lacks (formal) supporting institutions for assuring quality and standards, information provision, and contract enforcement. Although spot markets are effective in the FFV sector in the sense that exchange occurs, they incur relatively high transaction costs (mainly in terms of time spent on the exchange) for the actors involved compared to a situation in which better (and sometimes more formal) supporting institutions would have existed.

This paper identified several possible roles that a PO could fulfil in reducing transaction costs in contact, contract and control. These roles are bulking produce, contacting buyers, negotiating price and other delivery conditions, organizing payment, and enforcing contracts. It is therefore significant that virtually no PO plays an active role in FFV transactions in Tanzania. The reasons for this may be three-fold. First, it seems difficult to achieve bulk that is coordinated by a PO. Farmers harvest different crops at different times (during the growing season), according to ripeness of crop and cash needs of farmers. A PO wanting to achieve

bulk would need to coordinate the needs of many different farmers to achieve a certain quantity (and quality) required by a buyer. These coordination activities are transaction costs of their own and it is doubtful whether these would offset the potential benefits of a PO. Secondly, setting up and running a PO entails costs in itself, called organisational costs or governance costs. In many developing countries, and particularly in Tanzania, cooperatives have a reputation of bad governance, capture by political elites and fraud. Any farmer considering PO membership takes these potential costs into account, and if he does become member he requires sufficient safeguards against fraud and other governance problems. Third, establishing a PO involves transition costs³⁴ that arise when a shift is made from one form of institutional arrangement to another (Challen, 2000). These transition costs consist of fixed, upfront investment costs made to establish a PO. Although this study made no attempt to quantify these potential costs, the interviews conducted with farmers indicated that such costs might be an impediment. Furthermore, it is worth noting that the demand for high quality vegetable crops is not yet strong enough to support the establishment of an auction by a PO, and would also entail even larger transition costs, as a PO covering substantial numbers of farmers would be necessary.

Two forms of contract farming are found in the FFV sector in East Africa. The first is found between small producers and traders, whereby the trader provides credit to the producer in exchange for an assured supply at the time of harvest. Risks of contract default is avoided by close contacts between trader and producer and by reliance on informal institutions (such as reputation, social pressure, village leadership). This type of contract farming is seen only in situations with relatively undeveloped financial markets and where farmers need credit urgently. The interest rates are reported to be high, although no calculations have been made that factor in alternative interest rates and rates of default.

The second form of contract farming consists of an out-growers scheme whereby small producers supply a company or contractor with outputs that fulfils specific (quality) requirements that the contractor may have. Often the contractors are engaged in export production. Because export of FFV is still relatively limited in Tanzania, contract farming is less widespread than in other East African countries (e.g. Kenya). For small producers, contract farming seems a profitable arrangement as it ensures a stable and assured output market, thus lowering transaction costs.

Often contract farming is combined with a PO. This combined institutional arrangement seems to arise out of the desire of the contractor to lower transaction costs. Instead of informing and training multiple farmers, the contractor prefers to centralise this function through a PO. The POs found in the study had relatively little autonomy or bargaining power. Most POs were initiated by the contractor, and occasionally the rules on how the PO would function were set by the contractor. The POs basically lower transaction costs for the contractor by facilitating communication, dispute resolution and training. Virtually none of the POs in the study has taken up the function of inspecting the output and guaranteeing (quality) requirements, e.g. for Eurep/GlobalGap certification. This is interesting as this is one of the reasons often cited why a contractor would prefer to engage a PO. The reasons why the POs in the study do not take up this function lie in the fact that most POs lack the organisational³⁵ and human capital (or simply put capacity). Especially Eurep/GlobalGap requirements involve a high degree of expertise.

In the recent renewed attention for agriculture as a driver for development, much emphasis has been put on POs and their role in linking farmers to markets. However, our study in

Tanzania has outlined the limitation of POs in exactly this role. In the attention for POs, much emphasis is put on the roles they can and should take up, but less on the organisational capital this requires and the transition costs involved, compared to the benefits (e.g. in terms of higher output prices) of a PO taking up marketing functions. Donor support could therefore be directed at developing capacity of farmers to establish and manage POs, provide credit to establish a PO etc.

However, besides focusing on how to strengthen POs, there should be more consideration for alternative institutional arrangements. Nyandira market is a case in point. There the Market Association consisting of elected members from traders and producers, mandated to increase transparency, set standards and enforce compliance, has lowered transaction costs for all parties involved in the FFV (small producers and traders) and has facilitated growth in the FFV sector. In fact, it has increased the reason for existence of traders' association and producers organisations that were present. The various producers organisations did not play a role in marketing before the establishment of Nyandira market, but by linking them with the Market Association an innovative institutional arrangement has been found. Nevertheless, it must be underlined that institutional innovation is often costly. The Nynadira market for instance, did not emerge spontaneously, but was supported heavily by donors and MVIWATA. The role of MVIWATA illustrates how such an umbrella organisation can improve market access for small scale farmers. The reason why so much support was needed may be found in transition costs³⁶ and much effort was spent on building up the organisational capital necessary to run the Market Association.

A brief contrast of the experiences in Tanzania with those in Kenya, Uganda and Ethiopia highlights the importance of the institutional environment in facilitating growth in the FFV sector. In terms of formal rules, the policy and regulatory environment in Kenya has adopted a less interventionist attitude towards the FFV sector (as well as to agribusiness in general). This appears to be an important factor behind the stronger growth in this sector in Kenya. Various policy frameworks in Tanzania, going back to the early post-Independence period, have arguably created higher transaction costs for trade and commerce in the agribusiness sector, including FFV. In Kenya, the relatively lower transaction costs may have enabled the expansion of production, but also stimulated the adoption of institutional arrangements, in particular forms of contract farming, that are necessary for higher-quality (and thus higher value) supply chains to emerge.

It is interesting to note that in contrast, Kenya scores relatively worse on various governance indicators while Tanzania scores relatively better than its neighbours. This seems to indicate that in order for the FFV sector to grow, a situation of "good governance" is less important than specific government policies that increase the "ease of doing business" combined with little government interference in the commercial dimensions of the business. However, it remains to be seen to what extent a successful export horticulture combined with a lack of good governance has an impact on equity and poverty reduction.

So what does transaction cost economics (TCE) have to offer for understanding, and supporting, the development of the FFV sector in East Africa or possibly other developing countries? This research has attempted to apply the basic framework that was initially intended to explain the existence of different institutional arrangements within a developed market economy context. But in a developing country context, interest focuses as much on understanding how the use of each of these arrangements develops and grows, as production increases. In other words, the focus of analysis shifts from understanding why one

arrangement 'is chosen' over another to how the efficiency of each arrangement can be further improved. This does also involve insights into the configuration of transaction costs and their determinants. This shift in focus is reflected in the conclusions above concerning the opportunities to improve the efficiency of spot markets, rather than looking only, or first, at shifts within supply chains to other marketing arrangements.

This paper constitutes a first attempt at understanding institutional arrangements in the vegetable sector in East Africa. Several questions are still open for further investigation. For instance, there is little information documented or available on how farmers in Kenya who have formed producers' organisations to engage in contract farming have overcome transaction costs related to contact. How were the relations with the exporters established? What role did social capital and trust play in this? Are poorer farmers likely to be excluded from participation in such schemes? And what is the potential to stimulate the development of these new institutional arrangements? Such questions should be examined in future research.

8 Annex 1

Research questions

This study aims to contribute to answering a **general question**:

How can organisational (marketing) arrangements for farmers' sale of fresh vegetables be supported in order to promote pro-poor growth? (Alternative organisational—marketing—arrangements include selling to spot markets, contract farming, and selling through producers' organisations on either the spot market or with contracts.)

While not being able to answer the general question completely, the project will contribute to that goal by seeking to answer the more **specific questions**:

1. *How do alternative marketing arrangements for marketing fresh vegetables in Kenya and Tanzania compare in terms of transaction costs, and how are any differences related to characteristics of the product, market structure, supply chain, quality requirements or farmers?*
2. *How has external support to marketing arrangements for fresh vegetables in Kenya and Tanzania contributed to their performance?*

To answer the specific questions, the following **information gathering questions** are proposed for Tanzania, tentatively structured according to level of generality (which could be complemented with a classification according to source of information):

General information about marketing arrangements

1. How can the various market segments (for example, crop-related, quality-related, type of retail—wet market, supermarket, etc.) for fresh vegetables be defined and what are their relative shares in terms of quantity of produce, value, cultivated area, farms, and employment?
2. Which marketing arrangements for fresh vegetables exist and what are the proportions of marketed produce accounted for by the various arrangements (according to the different market segments)?
3. Under which circumstances are each of the marketing arrangements found in the fresh vegetable sector? (Products, location, distance from market, number of farmers/cultivated area, volume of produce, structure of downstream market, etc.)
4. How are the characteristics of farmers related to the choice of marketing arrangement? (Socioeconomic characteristics, characteristics of their farming systems, role of vegetable farming in livelihoods, access to natural resources (capital), financial capital, social capital)
5. Are farmers able to choose the marketing arrangement that best suits them, or are there constraints to this choice (if so, what)? Do other actors in the supply chain have more influence over the choice of arrangement?
6. How do the marketing arrangements compare with each other in terms of efficiencies in transaction costs? Can these be quantified in any way?
7. How do the marketing arrangements compare with each other in terms of information sharing between purchasers and farmers?
8. How do the marketing arrangements compare with each other in terms of information sharing among farmers?

9. How do the marketing arrangements rely on both formal and informal institutions?
10. Which stakeholders are active in promoting the various marketing arrangements and what means and approaches (strategies) do they use to do this?
11. How are the different marketing arrangements related to the sustainability of natural resource use?

Questions related specifically to contracts

12. How are contracts initiated?
13. What do contracts look like? How formal (written) or informal (oral agreements) are they? What is included and what is excluded (i.e. how complete and flexible are contracts?)
14. How do contracts account for production risks (e.g. weather, disease) or price risks, if at all?
15. How common are disputes over contracts, and how are these resolved?

Questions related specifically to POs

16. How do such POs get started? Who takes the initiative? What are constraints (especially in terms of transaction costs, formal rules and regulations, and informal rules) to the establishment and development of POs? How do POs enforce internal rules (delivery, timing, payment, quality) amongst themselves (members) and external rules with their buyers (delivery, timing, payment, quality)?
17. How common are conflicts and disputes, both internally and with clients/suppliers, and how are they resolved?
18. How can the relationships of POs with their input suppliers be characterised? Are POs better able to source inputs than individual farmers (by reducing transaction costs)?
19. What support do POs receive from government bodies (technical assistance, training etc)?
20. How do POs deal with production risks (e.g. weather, disease) or price risks, if at all?

9 Annex 2

List of interviews; 15-27 September 2007

1	AFD (dare s Salaam)	Mr Abel Lyimo & Mr Otto Ringeru
2	AMSDP (Arusha)	Mr. Walter E. Swai
3	AVRDC (Arusha)	Mr. Detlef Virchow & Mr. Stefan Pletziger
4	Banana Investments Ltd.	Mr. A.R. Olomi
5	CSDI (Dar es Salaam)	Mr William Massawe
6	Dabaga Veg/Fruit Canning Ltd	Mr Vikram Desai
7	DAI/PESA Growers Apex (Morogoro)	Representatives
8	DALDO (Arumeru District)	Mr. Paul Kessey & Ms. Mary Lucas
9	East African Seed Ltd.	Mr. Surendra R. Bakshi
10	EnviroCare Dar es Salaam	Mrs. Loyce Lema, Director
11	Envirocare regional office (Moshi)	Mrs. Redyy Kessy, Regional Coordinator
12	Faida MaLi (Arusha)	Ms. Maria Ijumba
13	Farmer groups—HAI	Faida – Hai
14	Farmers (Muheza)	Farmers
15	Nyandira market (Nyandira)	Jonas Robero, Manager of Nyandira market
16	Independent Consultant (Arusha)	Ms. Chira Schouten
17	Kariakoo Market	Mr Ng'ungu, GM, 1 broker, 2 wholesalers, 1 retailer
18	KiliCafe Farmers Cofee Cooperative	Chairman
19	Kilihortex (Arusha)	Mr. Erik Koster
20	Kilongo Farmers Assoc.	Board and members
21	Kittau and Company	Alois S. Kittau
22	Kwabada Farmers Assoc.	Board and members
23	Market Intermediary Man. (Arusha)	Mr. Mussa Mvungi
24	MatchMakers Associates (Arusha)	Mr. Henri van der Land
25	MDF (Arusha)	Mr Rogier Vereschoor
26	Ministry of Agriculture Dar es Salaam Farmers Group (Mlangarini Village, Arumeru District)	Ms Adah Mwasha Farmers Group, Board and members
27	Muheza Food Processing	Micro-entrepreneurs
28	Multiflower (Arusha)	Mr. T Scheltema, Mr. M Ngoma & Mr. J Nambua
29	MVIWAMO (chapter MVIWATA)	Mr. Richard Masandivu
30	MVIWATA (Morogoro)	Steven Ruvunga, Coordinator
31	Amkeni Farmer Group (Nduruma Village, Arumeru District)	Board and members
32	Nyika Marketing Consultants	G. E. Ulomi, Director
33	Orange Grower Apex Group (Muheza)	Board and members
34	Orange Growers Association (near Muheza)	Board and members
35	Organic Growers Group (Rauya village)	Board and member
36	Rotian Seed Co (Arusha)	Mr Sjouke & Mrs Yoka Bruinsma
37	SACCOS	Board and members
38	SNV (Arusha)	Mr. Nsanya Ndanshau
39	TABIC (Tanga)	Micro-entrepreneurs
40	TAHA (Arusha)	Ms. Jacqueline Mkindi
41	TCCIA (Morogoro)	TCCIA representative
42	TCCIA Head Office, Dar es Salaam	I Dallushi-VP Ag; P Lanya, M Naluyaga, M Mkocha
43	TechnoServe (Arusha)	Mr. Alex Mkindi & Mr. Wynn Jones Kapaliswa
44	Tengeru Horti (Arusha)	Mr Samali, Director
45	TPRI Pesticide Registrar	Mr Johnathan Ak'habuhaya
46	Traders (TCCIA Tanga)	
47	Winbo (Arusha)	Mr Mike Chambers

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11 NOTES

- ¹ See also Kydd and Dorward (2004). The discussion here follows the same distinction between institutional arrangements (governance structures, formalised agreements, contractual arrangements between specific actors) and the institutional environment (the more general formal and informal rules mediating interaction) best associated with Williamson (2000) and building on the work of North (1990). See Figure 2 in the appendix.
- ² Institutional arrangements are also often termed ‘governance structure’.
- ³ Keefer and Shirley corroborate the conjecture that the security of property rights and the credibility of contracting is relatively more important for economic performance than the more common economic policy instruments: “countries with high levels of institutional quality and poor macroeconomic policies grew twice as fast as countries with the reverse combination” (Keefer and Shirley, 2000, p. 94 cited in Williamson, 2002).
- ⁴ See for a discussion on hybrids (Ménard, 2004)
- ⁵ Another common attribute is the frequency and duration of the transaction (see, for example, Williamson, 1979, and Milgrom and Roberts, 1992). Because agricultural products are in general produced regularly on a seasonal basis with relatively little variation in frequency, we will not discuss this factor. It becomes more relevant in an analysis of transactions involving different types of agricultural and processed products.
- ⁶ We omit physical and human specificity as they are less relevant for agricultural transactions.
- ⁷ Although gift exchange plays an even more important role.
- ⁸ Moral hazard refers to a situation in which one of the contracting parties does not have information about the actions of the other party (as specified in the contract). Adverse selection refers to a situation in which one of the contracting parties does not have information on other party’s type (e.g. whether the other party is efficient and can deliver produce against low cost, or inefficient and needs to incur high costs).
- ⁹ Hayami & Kawagoe calculate that while the implicit interest for inputs of fertiliser and chemicals that traders earn amounts to 3.9% per month, which is a lucrative credit operation for traders, the system is also advantageous for farmers. The traders earn this amount by buying inputs against a lower price in bulk. They can thus offer fertilisers at a lower price to farmers than those offered by other sources. If farmers would purchase the input on credit from fertiliser dealers the implicit interest rate would be 1.9% per month, if they purchased them based on institutional loans from the government bank the implicit interest rate would be 3.8%. Hayami and Kawagoe calculate that the effective interest for farmers in contract farming is as low as 0.2% per month.
- ¹⁰ Unlike cooperatives in developed countries, which were independent, farmer-controlled and farmer-financed self-help organizations, cooperatives in developing countries were largely the result of government action. Many of these traditional cooperatives have now been abolished or restructured into POs that are more like coops in developed countries. This process of restructuring, however, is often hampered by lack of experienced leadership, lack of legitimacy and lack of credit.
- ¹¹ In a book on this topic Julius Nyerere explains Ujamaa: “‘Ujamaa’ then, or ‘familyhood,’ describes our socialism. It is opposed to capitalism, which seeks to build a happy society on the basis of the exploitation of man by man; and it is equally opposed to doctrinaire socialism which seeks to build its happy society on a philosophy of inevitable conflict between man and man” (Nyerere, 1962).
- ¹² This section is entirely based on (Kähkönen *et al.*, 2001)
- ¹³ Firms surveyed were selected randomly from the industrial sectors and geographic areas, using data files from Tanzania’s Central Bureau of Statistics. Firms were 44% in food industry, 11% in chemicals, 45% in wood and furniture industry. 80% were owned by Tanzanians, of which 59% were of African origin, 37% Asian, and five percent Middle Eastern.
- ¹⁴ In Tanzania, these collectors were typically referred to as brokers. However, we have decided not to use this term as normally a broker is someone who brings parties together, or who may execute a transaction on behalf of a seller/buyer. We avoided the term trader also, as this term is rather generic.
- ¹⁵ The export market is usually limited to non-traditional crops which have a limited market. The cross-border trade with neighbouring countries can be an important source of livelihood for communities living near border, but the traditional exports constitute only a small amount of total export earnings in the country.

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- ¹⁶ These are usually (open air) markets operated under license of local municipal governments and sometimes referred to as “wet markets” (Bear *et al.*, 2005).
- ¹⁷ We heard from collectors in Morogoro that they hired outsiders for this job.
- ¹⁸ *Rumbesa* means “in excess” (Mundy, 2006). The bags are called *lumbesa* (160 kg bag). Because of the overfilling of bags, the carriers run increasing health risks, as reported by the Sunday Observer on ‘Lumbesa men’ court big risks (2007-09-09 10:38:34 at <http://www.ippmedia.com/ipp/observer/2007/09/09/98029.html>).
- ¹⁹ In our interviews, it was reported that the farmers receive 10-20 TSH per orange, while the traders make a profit of 5 TSH (receiving 15-25 TSH). The transporter who picks, collects and loads the oranges and makes a profit of 2-3 TSH per orange. In another region where farmers cultivate late growing Valencia variety they acquire a price premium of 40 to 100 Tsh per orange.
- ²⁰ Through a partnership with a major Vegetable & Fruit Canning Company. The review team interviewed the manager responsible for organic pineapple exports.
- ²¹ Many NGOs are actively promoting organisation of farmers in associations and/or cooperative structures. They are also very active in identifying and establishing market linkages between farmers and markets / processors. But the field study in Tanzania did not find any self-organisation of farmers without external assistance and guiding. Also the Tanzanian government is occasionally involved in setting up farmers’ groups. One example was where the Department of Agriculture and Livestock District Officer (DALDO) had supported farmers to grow organic produce (with the technical support of CABI on IPM) and establish an agreement with a hotel to supply pesticide free vegetables. (Uliwa and Fischer, 2004) also note that “determining whether a group was “self-initiated” was difficult, because every group has had some interaction with Government, local NGOs or development programs”.
- ²² Especially Faida Market Linkages, and the DAI PESA project (Private Enterprise Support Activities)
- ²³ Tanzania Chamber of Commerce, Industry and Agriculture
- ²⁴ During field visits in Kenya to Maragua in 2006 and observed by Minot and Ngigi ((2004)However, it is not clear how widespread in Kenya this is.
- ²⁵ Based on: (Nyoro, 2002; Minot and Ngigi, 2004; Nyoro *et al.*, 2004; Tschirley *et al.*, 2004; World Bank, 2004; Wiersinga and Jager, 2007); <http://www.kenyaweb.com/horticulture/> ; <http://www.fpeak.org/home/index.asp>
- ²⁶ Based on (UN, 2002; EHPEA, 2006; Mussa and Greenhalgh, 2007) (Laws, 2006); <http://www.business-ethiopia.com/pineapple.html>
- ²⁷ This section is based on (Fisman and Svensson, 2005; Sonko *et al.*, 2005; Bernard *et al.*, 2007), <http://www.ufe.com/About%20UFEA.htm>; <http://www.ugandaexportsonline.com/business.htm>; http://www.agro-info.net/?website_id=7317
- ²⁸ Milieu Project Sierteelt or Environment Project Ornamental Plant Cultivation
- ²⁹ Based on interviews conducted in Tanzania in September 2007; <http://www.floricultureintl.com/archive/articles/705.asp> (Wijnands, 2003; Nyambo and Verschoor, 2005)
- ³⁰ Defined as the abuse of public office for private gain. Transparency International, 2007. See <http://www.transparency.org/> Accessed on 10/12/07
- ³¹ Care has to be taken when comparing countries over time, as small changes may be caused by the statistical construction of these indicators (Arndt and Oman, 2006)
- ³² <http://www.state.gov/r/pa/ei/bgn/2963.htm>
- ³³ For Tanzania see the country report on <http://www.doingbusiness.org/Documents/CountryProfiles/TZA.pdf>
- ³⁴ The analysis of alternative institutional arrangements we have undertaken compares transaction costs under alternative arrangements. This is essentially a static analysis. The transaction costs consideration relating to the process of institutional change is a dynamic issue. Transaction costs arise in institutional change in the form of transition costs, that is, the costs of decision making for institutional change and the costs of implementing institutional reforms.
- ³⁵ Organizational capital or managerial coordination can be defined as the ability to share and exchange knowledge and to combine each other kinds of knowledge and harness it where it is needed (Basu, 2004)
- ³⁶ The analysis of alternative institutional arrangements we have undertaken compares transaction costs under alternative arrangements. This is essentially a static analysis. The transaction costs consideration relating to the process of institutional change is a dynamic issue. Transaction costs arise in institutional change in the form of transition costs, that is, the costs of decision making for institutional change and the costs of implementing institutional reforms.