



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# **Overview of Smallholder Contract Farming in Developing Countries**

**Phil Simmons**

**Graduate School of Agricultural and Resource Economics**

**University of New England, Armidale, Australia, 2351**

## *Abstract*

An agribusiness firm's choice to expand activities through contract farming rather than plantations, buying directly from open markets or other means reflects differences in transaction costs found in different types of procurement systems. Smallholders may enter contracts to reduce transaction costs of accessing new markets, borrowing, managing risk, acquiring information or increasing employment opportunities. The success of contracts reflects both the contracting environment and management practices. The contracting environment includes the strength of markets for contracted output, government macro policies, technical sophistication in production and attenuation of land ownership while important management elements are farm groups, selection of participants for contracts, managing contract default and conflict resolution. Direct benefits from contracting accrue to smallholders from improved access to markets, improved technology, better management of risk and opportunities for employment of family members. Indirect benefits occur from empowerment of women and increased commercial acumen on the part of smallholders. Contract farming has the potential to improve the welfare of smallholders however it is not a sufficient condition for such improvement. Smaller farmers can be excluded from contracts because of selection bias by agribusiness firms awarding contracts to larger farms, be adversely affected by the second-round effects of contracts on incomes and prices and suffer from narrowing of markets that lie outside of contracts. Institutional developments that might ameliorate this type of exclusion are anti-trust legislation, policies to directly improve the contracting environment, policies to address specific problems smallholders face in entering contracts and participation by NGOs in contract facilitation.

## 1. Introduction

Over the last two decades market liberalisation has profoundly influenced agriculture in both developed and developing parts of the world. Market liberalisation, driven by the WTO and earlier GATT Rounds, has resulted in the deregulation of domestic food markets and the opening and expansion of international markets. Ponte (2000) examines the economic and social impacts on African agriculture of liberalisation and associated microeconomic reform with less government credit, less parastatal production in food markets and removal of price supports and input subsidies. Marsh and Runsten (1995) report microeconomic reforms in Mexico such as the 1989 deregulation of trucking and exports. Goodman and Watts (1997) provide a broader picture of effects of international trade expansion in food products on the economic and social environments in developing countries. These studies show market liberalisation is changing patterns of agricultural production in terms of on-farm crop and livestock mixes, increasing total production in physical and value terms and changing the types of food products entering international markets. The studies also show traditional values and habits in agriculture are being replaced by transactions that increasingly reflect a 'cash culture'.

Two major effects of market liberalisation are increases in the level of High Value Food (HVF) production and trade and changes in developing country food policy. International trade in HVF such as seed, horticultural products, spices and certain vegetables has increased dramatically in the last two decades. Jaffee (1994) examined growth in HVF production since 1980 and attributes it to market liberalisation, technical breakthroughs and development of contract farming. Such adjustment has occurred particularly in Latin America and Asia and to a lesser extent in Africa. This is described in Goodman and Watts (1997) as the emergence of 'New Agricultural Countries', (NACs), where exports of traditional crops such as cereals, sugar and tropical beverages are declining while exports such as Brazilian citrus, Mexican 'non-traditionals', exotics such as Kenyan off-seasonal vegetables and Chinese shrimp from Argentina are becoming an increasing proportion of both total and export agricultural income.

Food security policy, especially for cereals such as rice, has also changed as a result of market liberalisation and led to a shift away from traditional production and trade, greater specialisation and greater interest in HVF production (Pingali, Hossain & Gerpacio, 1997). This is reflected in the dismantling of restrictive marketing arrangements such as BULOG in Indonesia (Simmons & Daryanto, 1999) and other microeconomic reform in Asian, South American and African agricultural sectors. These reforms have been accompanied by policies to increase incentives for agricultural exports from developing countries.

Market liberalisation raises a number of issues from a poverty alleviation standpoint. It is clear that changes in patterns of agricultural production are occurring on a global basis in terms of the composition of production. However, it is not clear who will benefit from these changes. There is a risk that smallholders in developing countries are becoming more marginalised and being left out of the increases in wealth arising from liberalisation of domestic and international markets.

Contract farming, which is the focus of this paper, can bring potential benefits to smallholders by providing access to new markets and by providing opportunities for employing underutilised resources, particularly labour. However, such benefits may bypass smaller farmers as contracts

flow to larger farmers and, as well, there may be undesirable second-round effects from such contracting through impacts in local markets for food and farm inputs. In this paper an attempt is made to understand how contract farming may alleviate poverty amongst smallholders.

## **2. Why Does Contract Farming Occur?**

New types of agricultural production and marketing can occur under many different types of institutional arrangements. These can include plantations or state farms, nuclear-plasma combinations of plantation and small-holdings, various land and labour sharing arrangements as well as traditional smallholder family farm operations. The most common arrangement in both developed and developing countries is where land-owning farmers sell to local or city spot markets receiving prices that reflect purchasers' valuation of produce on the day based on quality and quantity. There are no overlapping contracts such as the purchaser providing credit and no forward pricing arrangements. However, there are alternatives to spot markets and these arrangements can be complex. Forward integration can occur where a group of farmers own or control a marketplace or backward integration occurs where large processing and marketing firms either own farms or become directly involved in supporting and controlling production through contracts. The latter type of arrangement is called 'contract farming' and usually involves a large agribusiness firm integrating backwards by forming alliances with groups of smallholders and, through written or verbal contracts, providing farm inputs such as credit and extension in return for guaranteed delivery of produce of specified quality often at a pre-determined price. Such contracting arrangements may also involve horizontal integration where firms not only provide direct inputs into farm-level decision making but also encourage integration of various activities across a population of smallholders through farm groups. These groups may co-ordinate planting and harvest as well as facilitate or manage storage and transport arrangements.

There are probably as many types of contracts as there are contracted smallholders. However there are common elements that distinguish 'contract farming' from alternatives such as plantation farming, share farming and selling through local markets. Contract farming impacts on *marketing* of produce and usually at least one of the other three stages that comprise an agricultural micro-system: *input supply*, *production* and *processing*. The simplest contracts are usually restricted to some type of forward selling. For example, Mangosteen producers in Bali receive an early season payment in return for assurances they will deliver the harvest to particular exporters who pay them the balance of the prevailing market price at delivery time. Other contracts are more complex. East Javanese seed corn producers contract with a multi-national seed firm using contracts that include quality and quantity clauses, provision of credit and require meetings of the farmers' group with firm extension officers to learn about seed crop management. These smallholders are tightly controlled in their use of fertilisers and pesticides and other management decisions such as planting density and timing of planting and harvest and the types of companion crops that are allowed.

### **2.1 Contract Farming Versus Spot Markets and Plantations**

Contract farming is an attempt by usually large agribusiness firms to expand their operations to improve profitability or manage risk by diversifying their sources of agricultural products. To understand why expansion may involve contracting with smallholders rather than, say, by

accessing spot markets more aggressively or by developing private plantations, 'transaction costs' encountered by large firms wishing to expand their operations need to be considered.

Williamson (1979) states 'economic institutions evolve to minimise the costs of resource allocation'. This means that of the plethora of structures a firm might take the firm eventually adopts a structure that minimises the (transaction) costs of assembling the resources necessary to meet demands emanating from markets.

Three factors contribute to transaction costs: bounded rationality, opportunism and asset specificity (Williamson, 1979). In the absence of these factors, contract farming would not occur since agribusiness firms could buy all their produce in spot markets which would be instantly and perfectly responsive to their demands. Bounded rationality describes differences in information between contracting parties. For example, the firm may have an excellent knowledge of markets while the smallholder may have little knowledge of them hence may benefit from a contract. Opportunism may occur when there are opportunities for taking advantage of situations to the detriment of the other party in an agreement. For example, smallholders may be concerned the firm could, by virtue of its market domination, offer a very low price in the spot market or, alternatively, the firm may worry that sellers could collude to drive up prices. Writing contracts clearly spelling out obligations may reduce these types of concerns. Asset specificity is the third factor contributing to transaction costs. It reflects risks associated with protecting 'sunk costs' in processing plants, logistical systems or market development or, for smallholders, costs of protecting investments in specialised machinery and knowledge. Both firm and smallholders may protect these investments through contracting (Dorwood, 2001).

The major alternative for the agribusiness firm seeking to expand its activities is to source from the open market. This is the usual arrangement with staples such as cereals and standard livestock products. However, this arrangement is less likely when HVF products are involved. High transaction costs associated with the open market arise from uncertain quality and supply and price risk. Food processors usually face tight quality requirements that may be difficult to meet in open markets. These requirements reflect technical aspects of preserving, packaging, freezing and transporting HVF products and, also, meeting consumer requirements. Consumers expect almost perfect product uniformity for food products. This is particularly so in the United States market where labelling ensures quality and consumers view product uniformity as a quality indicator for both eating experience and safety (Goodman & Watts, 1997).

Open markets such as that for rice are high volume and therefore are unlikely to have uncertain supply and quality issues can be dealt with cheaply through grading. Also, forward and futures markets exist for shifting price risk (Pingali, Hossain & Gerpacio, 1997). Hence, these markets function well on an open basis. However, HVF crops are usually produced in much lower volumes and sold to a relatively small number of purchasers who possess processing capacity to meet demands from consumers. This type of market structure, with a high concentration of intermediate buyers, is not conducive to open market selling since farmers can be 'at the mercy' of a few opportunistic agribusiness firms. If farmers avoid these types of crops, agribusiness firms may find spot markets thinly traded and unreliable as sources of supply. Contracts with individual smallholders are needed to encourage them to undertake production. Finally, thinly traded markets that have periodic shortages usually also have volatile prices. The latter can be

costly for processors if they are servicing large downstream contracts written in advance of a season.

Another procurement option for agribusiness firms is for firms to operate their own plantations. This type of sourcing also incurs a number of transaction costs. One of the most important is the cost of supervision which, because of the likelihood of ‘shirking’, can be high for some types of crops or livestock enterprises (Hayami & Otsuka, 1993). Shirking problems, also referred to as ‘moral hazard’ or ‘principal agency’ problems, reflect the high costs of monitoring labour effort when there is uncertainty about yield. Uncertainty over crop yield means the firm cannot distinguish between production lost through lack of work effort and production lost to weather and uncontrollable biological factors (Stiglitz, 1974; Binswanger & Rosenzweig, 1984). In principle, even a very slack work team may, in a good season, produce a crop with a good yield. This type of transaction cost is related to the type of crop technology used and increases with its complexity. For example, large plantations work well for tropical beverage crops where management tasks are clearly defined, usually uniform and do not require judgement or much initiative on the part of workers. Alternatively, HVF crops, such as vegetables for export, are unlikely to be successful in a plantation environment since they are technically more sophisticated and require worker initiative to achieve satisfactory yields and meet quality requirements (Hayami & Otsuka, 1993).

Other high transaction costs in plantation production include costs associated with land and skill acquisition. Land acquisition costs may be reduced through leasing or through subsidised land acquisition from government land reform policies. However, even under these circumstances, sunk costs are incurred in establishment of infrastructure and ‘setting up’. Plantations also depend on a relatively skilled supervisory and management team requiring substantial investment in human capital. These workers are employed on a permanent basis and are costly. Transaction costs on plantations may also result from unionisation or politicisation of workers resulting in opportunistic behaviour (Coulter et al., 1999). Also, governments or individuals with political power may see the relatively illiquid investments associated with plantations as opportunities for either *ad hoc* taxation or as soft targets for extortion.

Despite potentially high transaction costs from plantations, an agribusiness firm may face some distinct advantages from a vertically integrated operation involving firm-owned plantation production and processing and marketing operations. Supply may be more predictable, which is important if the agribusiness firm needs predictable throughput to achieve scale economies in processing or has forward obligations to service large downstream contracts. Also, while opportunistic behaviour by plantation workers may be costly, other types of opportunistic behaviour that occur in out-sourced or contracted production may be avoided. For example, costs of contract default where credit or other inputs provided to contracted smallholders are lost due to diversion of production to other buyers can be avoided. Costs of resolving conflict may be lower for plantations than for contract farming. Management can use its power to resolve disputes and, because information sharing occurs more easily in integrated firm structures, issues arising from differences in information held are less likely to occur (Dietrich, 1994).

## 2.2 Transaction Costs and Contract Farming

Contract farming may have high transaction costs however still represent the ‘best bet’ for expansion of the firm when compared to alternatives. Transaction costs incurred by agribusiness firms engaged in contract farming fall broadly into four areas (Deitrich, 1994):

### 2.2.1 *Costs of Drafting, Negotiating and Enforcing Contracts*

The initial costs of drafting contracts are increased by the necessity of having first season contracts work well. Glover and Kusterer (1990) report that farm contracts have a ‘honeymoon’ period in their first season where smallholders show high levels of goodwill towards the contracting firm. However, smallholders’ experience of the first season flows into later seasons when, with contract maturity, contract provisions tighten and smallholder attitudes harden as a more business-like attitude develops. Hence, getting the contract ‘right’ in the first season should be a priority for the agribusiness firm and likely to be costly. Upfront costs in negotiating and managing contracts include:

- Costs of gathering agricultural, social and economic information about an area or region.
- Costs of contacting and establishing relationships with individual smallholders, farm groups and village committees or headmen. This may involve both political action and purchase of goodwill at the community level.
- Costs of gathering information on individuals to select smallholders suitable, from the firm’s perspective, as partners in contracts.
- Costs of negotiating with individuals including possibly farm and family visits and establishment of personal relationships between smallholders and firm representatives.
- Costs of writing contracts and, where literacy is limited, legitimisation of contracts through a village committee or headman.
- Costs of enforcement of contracts.

### 2.2.2 *Maladaption Costs When Contract Specifications Are Not Met*

A pervasive theme in the literature on contract farming is quality specification of contracted production (Glover 1990; Glover & Kusterer, 1990; Marsh & Runsten, 1995; Eaton & Shepherd, 2001). Smallholders may face difficulties in meeting quality requirements regarding fruit or vegetable size, colour, blemishes and ripeness or seed grain moisture and purity requirements and, increasingly, food safety requirements related to chemical use. The reasons for smallholders apparently having more difficulty than developed country farmers in meeting quality specifications are not well understood. Glover and Kusterer (1990) point to economies to scale in quality management and the relatively small scale of production that most smallholder contractors actually achieve. Key and Runsten (1999) argue that quality control for HVF crops requires more capital intensive production than for other crops and hence the problem is essentially one of smallholders not being able to afford appropriate technology. Also, quality problems may arise for cultural reasons. The stringent requirements of consumers in developed

country markets may require a production mindset that is simply alien to *n*th generation traditional smallholders used to servicing markets where branding and product uniformity are not so important.

### 2.2.3 *Set-up and Running Costs Associated With Governance*

The governance of contracts requires a management team to support personal contact with smallholders in the village or region where the agribusiness firm is operating. Management personnel are likely to be involved in dealing with contractual problems such as payment issues and monitoring activities such as farm visits. This management effort may need to be integrated with extension services offered at either individual smallholder or farm group level or these may be run separately with extension services outsourced by the firm.

### 2.2.4 *Bonding Costs of Effecting Secure Commitments.*

The agribusiness firm has an interest in ‘bonding’ the smallholder to the contract by subsidising various types of capital acquisition. As the number of successfully completed contracts increases, smallholders gain specialised knowledge about the contracted crop and may invest in sheds, plant or field equipment to expand production or make it more efficient. This build up of capital should cause a bonding process making contract renewal more likely and leading to a long term relationship between smallholder and firm. Some frozen vegetable contracts in Mexico have operated over many years and apparently reflect very long-term expectations on the part of smallholders (Runsten, 1992).

In conclusion, the decision by an agribusiness firm to undertake expansion through contract farming reflects the costs of contracting compared to alternatives such as open market operations or plantations. Both of these latter structures have the potential for relatively high transaction costs and contract farming, under the right circumstances, may be the least cost growth option for firms.

## **3. Reasons Why Smallholders Participate in Contracts**

Contracts are initiated by those who write them and, as discussed above, agribusiness firms write contracts to either increase profits by expanding operations or reduce profit variability by diversifying supplies. However, if contracts are to work, they must be attractive to potential contractors. Hence, contracts struck with smallholders need to increase farm profits or reduce risk exposure.

### **3.1 Adoption of New Enterprises**

A farmer considers three factors prior to undertaking a new enterprise or substantially changing the way an existing enterprise is pursued. These are *revenue* implications, *cost* implications and any additional *exposure to risk* that might arise from the new activity.

In principle, a contract does not need to improve revenues to be attractive if revenue losses are more than fully offset by cost savings. However, researchers have yet to report examples of



contract farming involving expected reductions in revenue and increasing revenue is likely to be important.

Two types of farm costs are relevant to adoption: opportunity costs and input costs. Opportunity costs occur with a new activity because other on-farm or off-farm activities may need to be curtailed. In essence, new enterprises 'crowd out' existing activities resulting in lost income (or its equivalent in utility) from these sources. Hence opportunity costs reflect how resources such as labour, land, buildings and machinery are used in existing on-farm and off-farm enterprise or in leisure or community activities. Labour may be used to generate income or diverted to leisure or community activities. Land is likely to be used for other cropping or livestock purposes or rented out, sheds may be used for on-farm activities such as grading, processing and storage or for industrial piece-work and machinery can be used either on the farm or rented out.

Two considerations are relevant to evaluating opportunity costs. First, it is important whether the input is constrained in the sense that more of it cannot be purchased or obtained through negotiation with third parties. For example, if land can be rented in then the opportunity cost of land used in a new contractual enterprise equals its rental value. In contrast, if extra land is not available and the smallholder is 'land constrained', then the opportunity cost of land in a new contract equals the gross margin of the existing on-farm activity that is curtailed to accommodate the contract. Smallholders may be constrained with other inputs. Hiring in of additional labour may be impossible because it is unavailable and credit may be unavailable because the smallholder has no collateral.

The second consideration in evaluating opportunity costs concerns farm inputs that have zero or very low value for the smallholder. De Janvry, Fafchamps and Sadoulet (1991) extend the theory of 'shadow pricing' to farm input markets where inputs such as land and labour cannot be used because of high transaction costs. An example is where a farm family has surplus labour because it cannot rent in more land to provide employment for family members and things like travel costs, availability of work, social factors or cultural beliefs prevent off-farm work. In this situation, even though the village day rate for labour may be Rp.100,000 the shadow price for the family's labour is zero or very low reflecting only subjective valuation of leisure time or participation in village activities. In this sense, the family has a reservation price for its labour, say Rp.50,000 per day, that is never met by the market after transaction costs are subtracted and hence family labour is under-utilised. Relatively low shadow prices can occur in more subtle ways with land where social factors prevent certain types of activities. An example of social transaction costs in land use is wealthy land owners in Pakistan producing livestock, never crops. Clearly, if a farm contract can provide employment for resources that have very low shadow prices then it will be attractive to the smallholder.

The second type of cost is expenses incurred in purchasing farm inputs. Such expenses include hired labour, machinery, seed, chemicals, storage, marketing and rented land. A new enterprise must increase total farm income if it is to be a candidate for adoption by the smallholder. Increasing total farm income requires expected revenues to be greater than purchased input costs *plus* opportunity costs.

Adoption also requires farm risk remain at acceptable levels hence the effect of the new enterprise on stability of income is important. How farmers respond to uncertainty is contentious

however elements of the problem are captured in safety-first theory, where smallholders will not expose themselves to the risk of their income falling below some minimum threshold level (Anderson, Dillon & Hardaker, 1992). Farm bankruptcy is relatively common in developed countries where its consequences are serious though not necessarily dire. In developing countries losing land can be dire and empirical evidence shows developing country farmers generally take more conservative account of uncertainty than developed country farmers.

### **3.2 Reasons Smallholders Enter Contracts**

Agribusiness firms are likely to have four areas of strategic advantage that allow cost savings to be conferred on smallholders through contracting:

- They may have access to product markets where high transactions costs effectively prevent smallholder access.
- They may have access to relatively inexpensive credit where, for a range of reasons, smallholders face high interest rates or have no access.
- They may provide services for managing on-farm risk.
- They may provide information on extension, logistics and marketing at relatively low cost.

#### *3.2.1 Access to Markets*

Recent expansion of contract farming is often viewed as part of the broader globalisation phenomenon whereby removal of trade restrictions has led to increased flows of agricultural products, especially from developing to developed countries (Jaffee, 1994). Runsten (1992) documents a range of contracts since 1989 for HVF crops including strawberries, melons and frozen vegetables processed in Mexico then exported to the United States by both domestic and multi-national agribusiness firms. Goodman and Watts (1997) document the development of contracts, alongside other multi-national activity, for pineapples and bananas from Central American countries for export to the United States and Europe. Glover and Kusterer (1990) document similar activity in Central American countries and Porter and Phillips-Howard (1997) examine a range of new types of contractual arrangements involving international trade from Africa.

Agribusiness firms are instrumental in ‘opening’ markets for smallholders in all of these studies. These firms have advantages over smallholders in market knowledge and experience, information links, legal expertise, economies to size in processing and transport and have the financial muscle necessary for sustaining international trade relationships. From a smallholder perspective, in the absence of contracts these markets are ‘missing’ in the sense that transaction costs of accessing them on a small scale are effectively infinity.

#### *3.2.2 Access to Credit*

Non-traditional or HVF crops are more costly to produce than traditional crops and cash requirements for farm inputs are usually relatively high (Goodman & Watts, 1997; Key &

Runsten, 1999). This is because HVF crops often require specialty inputs and have more exacting quality requirements requiring sophisticated technology and flexible use of labour and chemicals. Hence, smallholders need access to credit to undertake production.

Many smallholders are credit constrained in the sense they have no access to credit at all (Glover & Kusterer, 1990; Hayami & Otsuka, 1993). Alternatively, if access is available they face high interest rates, often three to four times the bank rate, from local moneylenders or excessive transaction costs if they use bank credit. High interest rates reflect relatively high costs faced by local moneylenders in sourcing funds and servicing borrowers who do not have collateral. Titles to land may be traditional rather than legal and court processes slow, expensive or ineffective so that small loans are not worth pursuing legally. In this situation, a moneylender is limited to collateralising the smallholder's desire for future loans and, since they are often part of the same community, may face social pressure to be benevolent when repayments are delayed by bad seasons or exigencies such as weddings and funerals. These high costs are passed on to borrowers by moneylenders in the form of high interest rates. When smallholders seek credit from agricultural banks or micro-lenders, transaction costs are high. On even small loans they may face forced purchases, loan delay costs, travel costs, application fees, legal service costs and collateral titling costs (Key and Runsten, 1999).

There are several areas of potential savings for agribusiness firms in providing credit. If the firm is large and well established it is likely to obtain funds at normal business rates. A large firm may also have advantages over moneylenders in management of risk because of the size and diversity of its loan portfolio. That is, investing in a large number of small cash advances allows diversification of lending risk either across participants in a particular contract or across participants in a number of different commodity contracts or activities. The agribusiness firm also has lending advantages by virtue of its contract. A contract allows monitoring of input use, a degree of control over crop management decisions that might jeopardise repayment and can specify how cash advances are to be repaid. Also, contracts require delivery to the firm hence cash advances can be deducted from post-harvest cash settlements (Key & Runsten, 1999). Other loan protection devices include making future contracts depend on meeting repayment clauses in current contracts and making loans in the form of specialised agricultural inputs rather than cash. Finally, there may be no other local market for the contracted commodity than the agribusiness firm thus ensuring diversion of collateralised farm output cannot occur. These factors reduce the need for collateral and mean that agribusiness firms are likely to incur lower costs than moneylenders which can be passed on to smallholders through contracting.

### *3.2.3 Managing Risk*

Farmers in developed countries have three basic approaches to the management of risk. First, they can diversify over both on-farm and off-farm enterprises offsetting losses in one activity against gains from other activities. Second, they can smooth income over time by adjusting savings and borrowings to offset low and high income years. Third, they can use futures or forward markets or crop insurance policies covering price and yield variability to reduce risk.

In contrast, developing country smallholders have limited strategies for managing risk. Diversification on the farm offers prospects for income smoothing however yield risk may be correlated across enterprises if seasonal conditions are the major determinant of crop yield.

There may be scope for scattering plots across a district to diversify yield risk or finding off-farm work or entrepreneurial activity when farm returns are down. Restrictions facing smallholders in credit markets associated with high interest rates and lack of access, discussed above, limit the scope for using borrowings to supplement income in bad years and smoothing income over time. Finally, sophisticated markets for insurance, such as crop insurance and forward and futures markets, usually do not exist in developing countries and remain the province of wealthy farmers who can access international hedge markets. Hence, given the difficulties smallholders face in shifting risk, it is not surprising risk aversion is central in smallholder decision making and particularly so in adoption of new crops and technologies (Anderson & Dillon, 1992).

Entering a contract may mitigate or exacerbate smallholder risk. If upfront investment is required then failure of either the crop or the contract results in loss. Alternatively, if the contract works and becomes integral in the farm plan then it constitutes a form of diversification and may reduce risk providing it does not dominate the farm plan.

Non-traditional crops are likely to be more risky than traditional crops. They have higher production costs hence more income is at risk in the event of crop failure. In addition, prices of non-traditional crops are more volatile due to thinly traded markets, yield is more uncertain than with traditional crops and such crops are often more perishable (Marsh & Runsten, 1995). Hence, adoption of these crops can be unattractive from a risk standpoint without some form of risk protection. Such protection can occur in contracts in different ways. Subsidies may be provided when farmers first enter contracts to reduce risks in setup of the new enterprise, cash assistance with operating costs and extension and management input from the firm may reduce yield risk. Glover and Kusterer (1990) report that smallholders with contracts were subsidised in the early years of their participation and extension from the contracting firms was important in reducing yield risk.

Agribusiness firms could hedge some price risk for HVF products in options and futures markets to protect their own forward commitments and provide upstream protection to smallholders. However, there is not convincing evidence firms actually do this by putting price guarantees in contracts. We found from interviews with Indonesian smallholders that contracts for seed corn, Mangosteens and ginger stipulated prices based on market prices at time of delivery.

Thus, opportunities for reducing smallholder risk through contracting include diversification into a new crop with price movements largely independent of those for traditional products, reduced risk associated with start-up costs and seasonal operating costs met by the firm through subsidies at start-up and forward payments and reduced yield risk from the firm's extension activities.

#### *3.2.4 Provision of Information*

Information can be expensive to gather and is not depleted by use. Hence an agribusiness firm spreading information over many contracts has advantages in providing crop specific information over smallholders gathering their own information. Most contracts described in Glover and Kusterer (1990) included visits by firm extension officers to either individual farmers or farm groups several times during the first year of the contract but often less in later years. These visits combined dissemination of information with suggestions about management as well as providing firms with feedback on issues between themselves and growers. Most developing countries have

government extension services to disseminate information about traditional crops however, given the limited nature of developing country government resources, these agencies are unlikely to provide specialised information about new crops. Such specialised information may concern chemical restrictions related to food safety requirements in specific markets, timing of planting and harvest to meet markets, management of product quality and other market and technical information.

Dorward (2001) provides a diagrammatic treatment of transaction costs in contract farming reproduced as Figure 1.

## **4. Reasons for Success in Contract Farming**

Criteria for success of particular contracts in enhancing welfare can be derived from consideration of how contracts work. If contracts are entered freely and there are no barriers to exit, then persistence of contractual arrangements over time indicates both parties believe they are better off and hence the contract can be said to 'successful'. Thus, success of contracts might be measured by whether they persist over time indicating both partners are satisfied with the arrangement. In Indonesia contracts for seed corn, mangosteens, ginger and fresh vegetables for the tourist trade were not signed lightly by smallholders, who often spent a season making the decision. Of interest, all of these smallholders had some experience in production of the crops (or very similar crops) previously and in some cases with the contracting firm. Thus, entering the contract seemed to be part of the evolution of their selling arrangements rather than something new. There was no suggestion of pressure from agribusiness firms to enter contracts. We found no barriers to exit except implicitly with seed corn where a smallholder exiting the contract would face village level pressure not to grow non-contract corn while neighbours remained in the contract. The latter reflects a technical constraint in production of hybrid seed where neighbouring corn crops can interfere with pollination.

Defining success in terms of the contract continuing over many seasons may be too narrow. Glover (1990) goes one step further and defines success in terms of the (1) continuing viability of the contract and (2) distributional effects of the contract. As discussed later, contracts have community level impacts and favour some groups over others. The contract can create groups of losers that can be relevant in assessing the success of a contract from a development perspective.

### **4.1 Economic, Technical and Social Environment**

Whether a contract succeeds depends on uncontrollable factors in the legal, social, economic and physical environment:

#### *4.1.1 Strong Markets*

The market environment is essential to success of a contract. Demands met by the agribusiness firm through contract sourcing need to be both strong and not too volatile if contracts with smallholders are to succeed. Contracts between firms and smallholders have considerable start-up costs and a period of low demand for the final product can destroy continuity of a contract as it matures over a number of seasons leading to contract abandonment and losses. In Indonesia, an export ginger pickling plant sourced through contracts and costing several million dollars

ended up ‘mothballed’ after two seasons with grower contracts not being renewed. This occurred because large-scale entry by Chinese ginger producers to the Japanese pickled ginger market undermined demand for Indonesian pickles.

#### *4.1.2 Macro Institutional Policies*

Developing country governments pursue a range of policies to address strategic concerns, improve incomes and wealth and ensure economic and social stability. These policies operate across society and are designed to meet the needs of the majority of citizens rather than particular sectoral interests such as agriculture or exporting. As such, these policies are necessarily imperfectly targeted and may inadvertently work against particular interests. The macro policies likely to influence contract farming are land ownership rules, taxes, exchange rates and food security.

Landownership rules, particularly those preventing foreigners holding land, may favour contract farming by preventing plantation development by multi-national corporations. An additional issue here is sovereign risk that arises not because governments prevent foreign ownership or large holdings but because they might do so in the future.

Many farm contracts supply either export or import-competing markets hence volatile exchange rates can lead to difficulties since revenues are earned in one currency while costs are incurred in another. Thus stable exchange rate regimes favour contracting and unstable regimes place contracts at risk.

Food security policy is supposed to ensure that populations in developing countries are well fed. Such policies often use two instruments to achieve goals: self-sufficiency in production and control over food prices. Self-sufficient production of staples, usually meaning not too much dependence on food imports, is usually achieved through subsidisation of inputs such as fertiliser or other chemicals and, in some instances, by compulsory marketing of staples through government controlled boards empowered to sell at prices differing to those prices received by producers. Food security policies do not necessarily conflict with contract farming since smallholders contracted for HVF or exotic production may benefit from subsidised farm inputs. However, usually subsidisation of traditional production means producers of non-traditional products face greater competition in markets for inputs and outputs. Such distortions, while perhaps justified in a macro context, work against the interests of agricultural expansion based on contracts for non-traditional crops. Also, policies such as requiring firms to allow intercropping, although possibly laudable from a food security standpoint, may discourage contracting (Key & Runsten, 1999).

#### *4.1.3 Sophisticated Technology*

Sophisticated technology within the contract environment may encourage contract participation. Contracted crops usually require sophisticated technology (Key and Runsten, 1999). These crops require specialised information to produce, are relatively capital intensive and require high levels of management initiative that may not be possible with hired labour. As discussed above, smallholders have limited access to credit and information hence there are synergies from contracting with agribusiness firms providing capital and specialised extension support.

#### *4.1.4 Land Ownership*

If land tenure is not clear from a legal perspective then land is not useful as collateral for loans. Contracting firms then have a major strategic advantage in interacting with smallholders and access to credit becomes a reason for contracting.

If land tenure is uncertain, say because of land reform policy, smallholders need to be more risk averse and are unlikely to avoid significant sunk investments in either new enterprises or land improvements. Flexibility in contracting may provide a way around problems associated with such uncertainty. Short leases in land settlement schemes or other types of government land reforms creating uncertainty over ownership are also likely to favour contracting with its lower start-up costs (Porter & Phillips-Howard, 1997).

## **4.2 Management Environment**

Ultimately success of contract farming hinges not only on the economic and policy environment but also on the management environment. In this regard, two groups of issues stand out. The first is quality of management, the second, types of actions taken by management. There are no published papers directly addressing quality in contract management however a number of papers refer to the issues.

Porter and Phillips-Howard (1997) describe contract management failure in Africa resulting from use of expatriate staff with inappropriate cultural values in management roles. They argue that lack of knowledge of cultural values contributes to under-performance and failure of contracts through misunderstanding of issues, inappropriate conflict resolution processes and miscommunication. They argue for employment of local staff in contract management positions in contracting firms.

Smallholders are vulnerable to corrupt behaviour by agribusiness firm employees at several points in a contract. Corrupt employees may get kickbacks from purchases of farm inputs supplied to, and eventually paid for by, contracted smallholders. Delivery may also present opportunities for corruption if different quality standards or delivery schedules are applied to different growers or if short-weight occurs (Glover, 1987).

Other aspects of management concern specific actions taken by management to facilitate achievement of successful contract outcomes. Organization of farm groups, selection of farmers, management of contract default and conflict resolution are discussed below.

### *4.2.1 Farm Groups*

Farm groups can play an important role in success of a contract by encouraging adoption of new technology and adjustment to changed market conditions and by lobbying to deal with political change (Coulter et al., 1999; Glover, 1987). Such groups figure prominently in the contract farming literature where Glover (1987) and Glover and Kusterer (1990) and others see farm groups facilitating contract management by dealing with disagreements between growers and contractors and assisting transfer of technology through group discussions.

Bingen (1991) argues that successful farm groups are built on pre-existing groups, are democratic rather than 'top down' and they have either explicit or implicit constitutions and protocols. Little and Watts (1994) stress the need for groups to be politically independent and self-financing to be effective. Farm groups can be particularly effective through 'linkage dependence' where there is linking of the purpose of the group to the activity of the contract. Coulter et al. (1999) report that contract linkage dependent groups in Kenya achieved better bargaining positions for members, developed long-term investment strategies and improved crop production skills.

Members of farm groups often have diverse interests and Glover (1987) argues that this leaves them open to subversion by both agribusiness firms and local governments or both working together. Diversity of interests arise because some growers undertake service activities associated with the contract such as transporting produce to the processor or procurement of inputs. More experienced growers may be sources of extension information for less experienced growers and large growers may provide machinery to small growers. Resentments arising from conflicts of interest may lead to risk aversion amongst group members and unwillingness to take action.

Farm groups are important in managing agricultural contracts however it is not clear where the impetus for such groups should or actually does come from. Farmers may have pre-existing groups that can be linked to the contract or a community might encourage formation of a group in response to lobbying from an agribusiness firm. We found in the Indonesian seed corn case the agribusiness firm built a public hall as a gesture to the community in which its contract was being implemented and the hall was used by the contracting group of farmers for meetings.

#### *4.2.2 Selection of Farmers*

All of the literature reviewed assumed agribusiness firms selected smallholders for contracts and the possibility of self-selection by smallholders is referred to only indirectly. This reflects that contracting firms are usually perceived to hold the power in relationships with smallholders and, by implication, can pick and choose partners for contracts. The distinction between selection by the agribusiness firm and self-selection is important since with self-selection smallholders with most to gain would be the ones most likely to enter contracts. That is, smaller more constrained enterprises that were not doing well in the spot market system would have strong incentives to negotiate contracts. Alternatively, if selection is by agribusiness firms, larger, less constrained smallholders with lower unit costs and less risk exposure could be the most attractive partners.

When agribusiness firms have the power to pick and choose smallholders for the contract there are a number of selection factors that seem to be common across contracts. These include previous farming experience of the smallholder, farm size, fertility of farms and community considerations.

Previous experience is important in contracting. Producers in Central and South America with previous experience in growing particular crops achieved good contract performance while other growers who lacked such experience, were not so successful (Glover and Kusterer, 1990). In Indonesia, a ginger contract was successful from an agronomic viewpoint because the type of ginger required was a juvenile form of a type contractors had grown before.



Smallholder farm size is also important in selection of contractees. CDC (1989), Runsten (1992), and Little and Watts (1994) argue larger growers are likely to be more attractive partners. Larger growers can undertake more production hence overheads associated with the contract are a smaller proportion of total costs. This means costs incurred by the firm for provision of extension information and farm visits, purchase of equipment and other capital outlays associated with set-up are lower per unit of contracted output. Large growers are better positioned to bear crop risk, may already possess expertise in crop husbandry and labour management and often have storage and transport facilities (Wilson, 1990). Finally, large growers are better able to manage quality, their produce is less likely to be pooled hence is more easily traced if quality problems occur and they can achieve economies to size in audit and record keeping (Runsten, 1992). These size advantages allow larger growers to be paid lower prices than smaller growers with lower contractual risk for the agribusiness firm.

Farmers with more fertile farms can achieve lower unit costs and hence higher margins from contracts and so can be paid lower prices than smallholders on less fertile farms. In addition, more fertile farms are less risky in terms of yield and their owners are more likely to meet delivery requirements. On the negative side, more fertile farms have higher opportunity value and hence there may be greater risk of the smallholder dropping the contract for some other type of production.

There are logistical advantages for an agribusiness firm selecting farmers from a single geographical region. Most contracts involve visits to smallholders, village headmen and farm group meetings and money is saved if these people are in close proximity both to each other and to processing facilities. In Indonesia contracts often involved one or a few villages in regional clusters. Hence, from the standpoint of the agribusiness firm seeking to establish a new contract, the problem is not simply to identify suitable growers but also a suitable community environment. Contracts need to be harmoniously integrated into communities without creating too much competition for resources resulting in resentment of the contracting firm or its contractees.

#### *4.2.3 Contract Default*

Enforcement of contracts is central to contract success. A major problem is that agribusinesses are hampered by limited legal recourse when things 'go wrong'. Developing country smallholders are unlikely to use land as collateral on advances of credit or other farm inputs and the traditional nature of land titles and slow court processes means liens on small parcels of land are virtually useless for recovery of small debts. Thus contracted smallholders may either divert inputs provided by the agribusiness firm to other on-farm end-uses or sell them or may divert contracted production to other purchasers without facing the types of penalties imposed on developed country contract farmers who default.

Thus, an immediate problem for the agribusiness firm setting up a contract is to ensure contract default is minimised. From the agribusiness firm's perspective, the major element in contract compliance is providing the smallholder with credible prospects for, and a desire for, contract renewal. In this regard, smallholders can be seen as collateralising future income rather than assets to secure upfront transfers from contracts. The contract must be sufficiently attractive so costs to the smallholder of default related to exclusion in future seasons exceeds benefits from

default such as being able to pocket forward payments. If a contract is only marginally attractive in terms of profit then default risk is higher.

Firms can do other things to minimise default. Loans can be channelled through farm groups so that default, providing the group does not collectively default, results in social costs. Monitoring and communication may result in relationships that create personal pressures for contract compliance. Other strategies for avoiding default include having strict rules for dealing with defaulters and, if possible, co-operation between buyers in boycotting diverted production (Eaton and Shepherd, 2001).

#### *4.2.4 Conflict Resolution*

Contract managers need to be able to deal with disagreements if contracts are to be successful. Glover & Kusterer (1990) report many misunderstandings and disagreements arising in contracts and our experience in Indonesia was that smallholder issues over operational aspects of contracts seemed the rule rather than the exception. As contracts mature past an initial 'honeymoon' period, issues may arise about real or imagined wrongs suffered by smallholders from actions by the contracting firm. Case-studies of contracted Canadian and Australian potato contracts indicate this is also common in developed country contract farming (Glover & Kusterer, 1990; Fulton, Amabel & Clark, 1996). It seems likely that a 'honeymoon' period after the establishment of a contract is followed by a period of contract tightening. Although there are no published data on prices and effective rates of subsidisation over the lifecycle of a contract, two reasons can be conjectured why contract terms and conditions might tighten as contracts mature. First, first season contracts are likely to include some subsidisation of smallholder setup costs. This may take the form of intensive attention from the firm's extension officers or assistance with capital investments that is implicitly included in contracts through generously set prices and subsidisation of inputs. The second reason contracts may tighten up is that relatively high cost producers who make lower profits from the contract are less likely to renew contracts or to be asked to renew by the agribusiness firm. As high cost producers leave the contract the agribusiness firm can negotiate tougher terms without jeopardising its procurement base. If this occurs it would leave smallholders with the correct perception that the contract was getting tougher over time and, presumably, that they had something to complain about.

## **5. Summary of Benefits to Smallholders from Contract Farming**

A smallholder's decision to enter a contract and his or her successful participation in it will lead to an improvement in welfare in terms of increasing income, reducing risk exposure or gaining social prestige. If this were not the case, farmers would 'opt out' of contracts and return to traditional farming. While there is evidence some farmers do opt out of contracts and some contracts fail, there is also evidence of smallholders participating in contracts over many years (Runsten, 1992).

### **5.1 Direct Benefits from Contracting**

The main driver in improving in welfare is enhanced profitability. At an operational level within contracts, increased profits arise from:

### *5.1.1 Improved Access to Markets*

Contracting agribusiness firms can achieve size economies in accessing international markets. Contracting allows the advantages of these economies to be conferred on smallholders who often find that local spot markets for these products are thin or simply missing.

### *5.1.2 Improved Access to Credit and Farm Inputs*

Many smallholders are credit constrained and hence do not have access to farm inputs needed to undertake new enterprises. Agribusiness firms usually include forward payments or provision of inputs in contracts to overcome this problem.

### *5.1.3 Better Use of Technology*

Contracts are often written for products that are new to the smallholder and have tight quality requirements. In the absence of a contract, smallholders would face high costs in gathering technical and market information. The agribusiness firm often has a stockpile of such information and can achieve economies to size in providing information to many smallholders.

### *5.1.4 Better Management of Risk*

Contractors may facilitate risk bearing by providing start-up capital or assistance, operating cash and inputs, forward payments for farm inputs and forward price guarantees. In addition, adoption of contract farming may result in diversification of farm activities. Contracting agribusiness firms may also provide extension services leading to reduced yield risk.

### *5.1.5 Farm Family Employment*

Smallholders benefit from additional employment opportunities arising from contracts since they often face high transaction costs when selling labour off the farm. In the early development literature this was referred to as the 'hidden unemployment' problem and explained in terms of seasonal patterns of labour demand. As discussed before, de Janvrey, Fafchamps and Sadoulet (1991) explain this type of unemployment in terms of shadow prices and underlying transaction costs. Farm contracts provide a way to minimize some of these costs because HVF production is usually labour intensive, reflecting both its horticultural nature and contractor requirements for high quality. Thus, farm contracts are an important source of employment for farm family members that otherwise would have limited work opportunities.

## **5.2 Indirect Benefits from Contracting**

Indirect benefits arise from smallholder contracting in relation to changes in cultural values driven by the contracting process. In particular, these include empowerment of women and benefits associated with development of a more commercial outlook by participating smallholders.

### *5.2.1 Empowerment of women*

A not uncommon outcome of contracts is that women and younger family members provide much of the labour while cheques are paid to the (male) household head who holds title to the contracts (Glover & Kusterer, 1990; Torres, 1997). Porter and Phillips-Howard (1997) report an African case study where women, despite being the principal farmers, held titles to contracts only when they had no husbands and where additional labour demands arising from contracts were met by women and children. While this indicates that contracts have the potential for exploitation in some family situations, the importance of women in contracts may raise the power of women in the family by increasing the dependence of the family unit on their production. Glover and Kusterer (1990) and Kirk (1997) report that women's subjective feelings about contract experience were positive in terms of improved self-esteem and self-confidence and feeling more powerful. This was particularly so for female process workers employed downstream from contracted production. These women were often recruited from domestic help positions where hours were long and uncertain and pay was low. They were positive about being able to clock on and off and about the social contact they got from their food-processing jobs.

### *5.2.2 Development of a Commercial Culture*

Farmers are likely to benefit from the learning process that underlies contract participation. By participating in contracts, smallholders are involved in negotiations over production, storage, delivery and communication that often lie outside of traditional farming experience. While much of this decision-making may be facilitated by participation in groups, farmers bear the final responsibility for these decisions. In the context of pressures from the new cash economy, urbanisation and reduced government support associated with liberalisation of domestic markets, contracting then becomes a facilitating component in a broader shift in developing country agriculture towards a cash exchange culture. In his study of contract farming in Africa, Ponte (2000) argues a major effect of modernisation has been replacement of traditional exchange mechanisms based on mutual obligation, kinship and class structure with cash exchanges. Farm families now need cash for school fees, weddings and funerals and basic items such as food, clothing and medicine. Farm contracts can provide the cash to meet these needs and should facilitate adjustment to modernisation by increasing smallholders' awareness of options and knowledge of commercial practice.

## **6. Institutional Reform and Contract Farming**

Expansion of contract farming has been driven by liberalisation of domestic and international markets, technical changes in processing and storage of HVF products and development of new selling methods based on product uniformity and branding. This expansion has the potential to benefit smallholders and, through linkages to other parts of the economy, to have flow-on effects benefiting others outside of contracts. Linkages include creation of downstream investment and employment activity, increased profits leading to new investment and general multiplier effects at all stages of the value chain. However, the expansion of contract farming is not a sufficient condition for poverty alleviation amongst smallholders. Issues exist about whether smallholders are likely to be excluded from benefits and whether contracts may in some situations lead to increases in absolute poverty or in relative poverty where some are 'left behind' in the

development process. These issues focus attention on institutional reforms that might ameliorate these undesirable effects.

## **6.1 The Problem of Exclusion**

Exclusion from the benefits of contracting can occur through bias by agribusiness firms against relatively small farmers in selecting farms for contracts, second-round effects of contracts in local and national markets changing income patterns and driving up food and farm input prices and through narrowing of local farm markets resulting from agricultural resources being diverted to contractors.

### *6.1.1 Selection Against Small Farmers*

As discussed previously, agribusiness firms benefit from contracting with larger farmers who are likely to have lower average costs and be more reliable as suppliers in terms of quality and quantity. Much of this follows from pure monopsony (or oligopsony) theory where large firms sell in competitive markets where they are price takers however act as price makers when they purchase supplies from captive farmers. Maximising profits depends on paying as low a price as possible for raw materials and results in exclusion of high cost producers. The monopsonist pays captive farmers a price that gives them a gross margin slightly higher than they would earn in their next most profitable activity so that the relative profitability of contracting is likely to be low. The general thrust of monopsony theory is sound even though it has stringent assumptions that are violated in the context of contract farming. The theory does not deal with the desire of agribusiness firms to protect often substantial investments in their procurement bases, horizontal linkages between farmers that may make exclusion difficult, under-employed smallholder family labour or the dynamic aspects of contract maturation. Thus, while agribusiness firms have the market power to exclude high cost (small) farmers from contracts and possibly incentives to do so, it is not clear how aggressively they are likely to act in this regard.

### *6.1.2 Second-Round Effects*

Agribusiness firms are likely to concentrate contracts within single communities to keep costs of communication and transport to processing centres down and this may cause second-round effects on income distribution through income and price effects. The importance of these effects depends on the dominance achieved by contracted production in generating income for the community and in markets for inputs such as land, labour, transport services and rental machinery. If the contract accounts for only a small proportion of the community's total income and makes relatively low demands on farming resources then its economic impact will be minor, and by implication, its social impact will be minor. Alternatively, if contract income is a large proportion of community income and the contract results in significant demands in local farm input markets, then second-round effects are likely to be important.

Contract income will flow to those outside the contract as higher community income resulting from the contract is translated into increased demands for local goods and services. Thus, contract income is shared with others. Also, additional income will flow into traditional village ceremonies and into meeting kinship obligations. Our study in Bali indicates such payments may constitute up to 40 per cent of smallholder household outlays. On the negative side, additional

demands in local markets mean additional competition amongst local consumers for some goods and services. If additional supplies cannot be sourced from other areas, or locally produced at reasonable cost, then prices must rise to meet new demands. Ponte (2000) argued in his African study that contracting increased local food prices. Hence, contracting can result in winners and losers at a community level where the winners are contractors and the people they buy things from while the losers are people who do not receive new income but must pay higher prices because of the second-round effects of the contract.

There is a parallel story in markets for farm inputs. A contract that is a significant part of the local economy will increase demand in local input markets; particularly markets for land and labour. Contracting may increase demand for rented land directly if land is rented in for contracted production or indirectly if it is rented in for other production to replace land used in contracted production. Labour available to the rest of the community may also decrease if labour is hired to meet the needs of contracts or if labour is no longer hired out by farm families because of their contracted production. Other local input markets such as those for transport and rental machinery may also face increased competition. Increased competition in local agricultural input markets flows through to prices, making other agricultural production undertaken in the community less profitable.

Changing relative incomes of members of a community is likely to cause social tensions as people discover that previously secure positions in social hierarchies are under threat. A losing group may be forced to sell more labour, possibly on a casual or day basis, leaving them in different social and economic circumstances than previously. Also, this poorer group may previously have benefited from traditional reciprocity arrangements and find themselves disadvantaged as traditional values diminish in importance in the face of the strong cash culture that goes with contracting (Clapp, 1988; Wilson, 1994).

### *6.1.3 Narrowing of Markets*

Contract farming may lead to a narrowing of markets for produce outside the contract as farm resources are diverted to contract production and as increased demands for local farm inputs make non-contract production of food unviable *vis a vis* food sourced from other regions. This creates problems for non-contract producers who then face thin markets and must compete with new extra-regional suppliers for customers. Market narrowing may also create barriers to exit from contracts. Smallholders who opt out of contracts may discover the local markets they served previously are missing or operating only intermittently and hence face price discounts and additional costs of finding and accessing new markets (Little & Watt, 1994).

## **6.2 Policies for Institutional Development**

Government may play two important roles in ameliorating the negative effects of contract farming. The first role is as a market regulator ensuring that agribusiness firms do not abuse their market power. Effective policy in this area would increase prices received by farmers ameliorating the problem of small farmers being excluded from contracts because of high costs. The second role is to facilitate contracting by encouraging agribusiness firms to initiate new contracts and providing support to smallholders to make them suitable for contract selection. These policies should also ameliorate the exclusion problem since they can reduce agribusiness

firm costs thus encouraging them to increase the volumes procured under contract and, by dealing with problems faced by smallholders, make them more competitive with larger farmers and better positioned to use their relatively cheap, skilled labour to negotiate their way into contracts.

### *6.2.1 Abuse of Market Power*

Most developed countries have restrictive trade practices or anti-trust legislation that penalises aggressive pricing by firms that hold dominant market positions. Prosecutions under these acts have generally focussed on protecting customers in intermediate and final good markets however, in principle, the same arguments and legislative intent applies to aggressive pricing in sourcing of raw materials where a dominant firm is buying from a large number of small producers.

The track record in developed countries of such legislation for protecting farmers servicing agricultural contracts is not encouraging. Fulton, Amabel and Clark (1996) report that Australian farmers servicing potato contracts claim they are exploited and have taken political action to get government protection however there have been no prosecutions. Glover and Kusterer (1990) report a similar story for Canadian potato contractors with political action on the part of growers not evoking a legal response.

Since contract farming is increasing in less developed countries it seems likely that legal protection for smallholders will emerge however it is not clear whether this would occur as part of existing general anti-trust legislation or as specialised legislation designed for contract farmers. Specialised anti-trust legislation is used in the United States where protection of contracted farmers occurs under the Uniform Business Code and the Perishable Agricultural Commodities Act (Runsten & Marsh, 1995).

Anti-trust legislation requires development of judicial institutions to conduct enquiries and make judgements. The genesis of such institutions may be the type of institution for arbitration of contract disputes offered currently offered by the Government of Malawi. The government has established guidelines for dispute resolution in agricultural contracts and offers the services of an officer of the Minister of Labour for mediation (Eaton & Shepherd, 2001).

### *6.2.2 Facilitation of Contract Farming*

There are two types of facilitating policy that are relevant to contract farming. These are (i) adjusting the regulatory regime to reduce transaction costs for participants in contracts and (ii) government playing an enabling role to encourage contract farming. Regulatory adjustments to create a desirable policy environment for contracting include reducing paper work for exporters, reducing certain import and export taxes, removing import restrictions, implementing food-safety standards, replacing crop production taxes with land taxes and deregulating prices in food markets. Removal of specific regulations can directly facilitate contracting. For example, removal of import restrictions on a specific variety of seed-potato by the Philippine Government led directly to contracts between frozen french-fry processors and smallholders (Eaton and Shepherd, 2001).

The enabling role of government in contract farming may include training, arbitrating disputes, undertaking research and provision of extension services. Training programs for smallholders in literacy, accounting and cash management can reduce miscommunication in contracts (Glover,

1990). Most developing country governments undertake research on agricultural production and often on food processing and marketing. Opportunities may exist for increasing the productivity of resources used in contract production of HVF crops by building co-operative relationships with agribusiness firms that result in sharing of information about research priorities and issues. With extension, the tendency is for agribusiness firms to undertake their own or out-source it to ensure quality standards are met and contracts stay on track. However, government extension officers could also play a role in advising farmers on production techniques and contracting opportunities and by facilitating contact between firms and interested smallholders.

### **6.3 NGOs and Contract Farming**

NGOs can facilitate contracting by small holders. Glover and Kusterer (1990) found interaction of an NGO with a Central American farmers' group contracting for vegetables had a positive effect on farmer performance and that farmers in neighbouring regions working with similar contracts but no NGO were less successful in terms of persistence with the contract. The NGO provided agronomic advice to the smallholders and evaluated advice given to growers by the agribusiness firm over a number of years. In Mexico, Asesoría y Servicios Integrados Agropecuarios (ASIA) acts as an intermediary between smallholders and agribusiness firms in negotiating contracts and facilitating arrangements in contract flower production. Their role includes contract evaluation, discussion with smallholders, liaison with the contractor, technical assistance and helping with purchases of farm inputs. The NGO also provides links to credit sources and is actively involved in making and receiving payments (Rello & Morales, 2002). In his African study, Porter and Phillips-Howard (1997) also argue for the positive affects of NGOs on contract performance as do Eaton and Shepherd (2001) in their general review of contract farming.



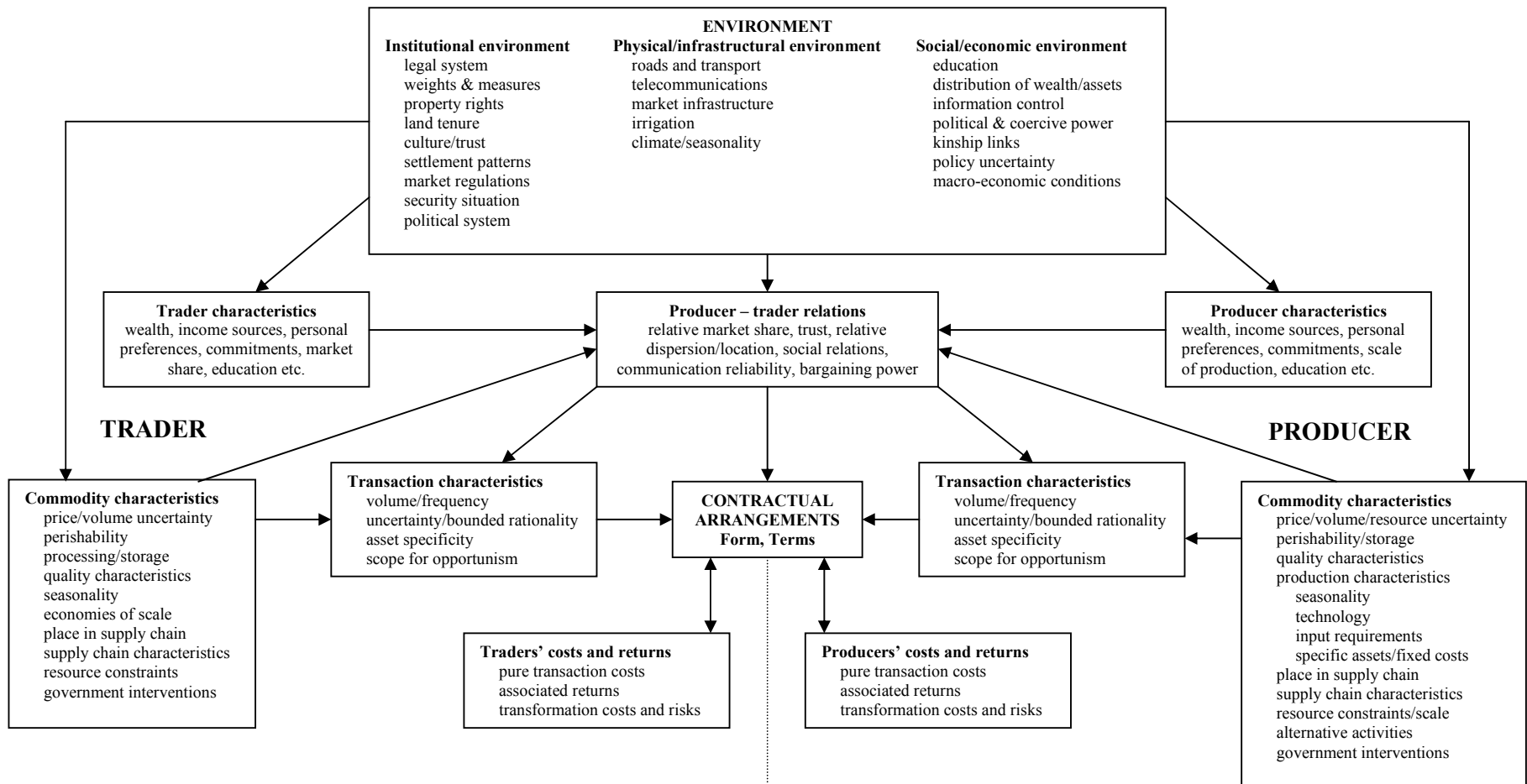
## References

- Anderson, J.R. and J.L. Dillon (1992), *Risk Analysis in Dryland Farming Systems*, Farm Systems Management Series, Food and Agricultural Organisation, Rome.
- Anderson, J.R., Dillon, J.L. and B. Hardaker (1997), *Agricultural Decision Analysis*, Iowa State University Press, Ames.
- Bingen, J. (1999), *Producer Groups: Becoming Full Partners in Agricultural Markets and Agro-enterprises*, Guide to Developing Agricultural Markets and Agro-Enterprises Series, World Bank.
- Binswanger, H. and M. Rosenzweig (1984), Potential competitiveness of the Mexican processed vegetable and strawberry markets, In *Contractual Arrangements, Employment and Wages in Rural Labour Markets in Asia*, Yale University Press, New Haven.
- Clapp, R.A.J. (1988), Representing reciprocity, reproducing domination: ideology and the labour process in Latin American contract farming, *Journal of Peasant Studies* 16(1), 5-39.
- Commonwealth Development Corporation (CDC) (1989), *Review of Smallholder Development Programs*, Vols 1 & 2, London.
- Coulter, J., Goodland, A., Tallonaire, A. and R. Stringfellow (1999), *Marrying Farmer Co-operation and Contract Farming for Agricultural Service Provision in Sub-Saharan Africa*, Guide to Developing Agricultural Markets and Agro-Enterprises Series, World Bank.
- de Janvrey, A., Fafchamps, M. and E. Sadoulet (1991), Peasant household behaviour with missing markets: some paradoxes explained, *Economic Journal* 101(November), 1400-1417.
- Dietrich, M. (1994), *Transaction Cost Economics and Beyond*, Routledge, London.
- Dillon, J.L. and J.B. Hardaker (1993), *Farm Management Research for Small Farmer Development*, Farm Systems Management Series, Food and Agricultural Organisation, Rome.
- Dorward, A. (2001), The effects of transaction costs, power and risk on contractual arrangements: a conceptual framework for quantitative analysis, *Journal of Agricultural Economics* 52(2), 59-73.
- Eaton, C. and A.W. Shepherd (2001), *Contract Farming: Partnerships for Growth*, FAO Agricultural Services Bulletin 145, Food and Agricultural Organisation, Rome.
- Fulton, A.L.A., Amabel, L.A. and R.J. Clark (1996), Farmer decision making under contract farming in northern Tasmania, in D. Burch, R.E. Rickson and G. Lawrence (eds), *Globalisation and Agri-food Restructuring: Perspectives from the Australasia Region*, Avebury, Brookfield.
- Glover, D. (1990) Contract farming and outgrower schemes in East and Southern Africa, *Journal of Agricultural Economics* 41(3), 303-315.

- Glover, D. and K. Kusterer (1990), *Small Farmers, Big Business: Contract Farming and Rural Development*, Macmillan, London.
- Glover, D. (1987), Increasing benefits to smallholders from contract farming: problems for farmers, *World Development* 15(4), 441-448.
- Goodman D. and M.J. Watts (eds) (1997), *Globalising Food: Agrarian Questions and Global Restructuring*, Routledge, London.
- Hayami, Y. and K. Otsuka (1993), *The Economics of Contract Choice*, Oxford University Press, Oxford.
- Key, N and D. Runsten (1999), Contract farming, smallholders, and rural development in Latin America: the organisation of agroprocessing firms and the scale of outgrower production, *World Development* 27(2), 381-401.
- Kirk, C. (1987), Contracting out: plantations, smallholders and transnational enterprise, *IDS Bulletin* 18(2), 45-51.
- Little, P.D. and M.J. Watts (eds) (1994), *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison, University of Wisconsin Press.
- Marsh, R.R. and D. Runsten (1995), The potential for small holder fruit and vegetable production in Mexico: barriers and opportunities, Paper presented at the XIX International Congress of the Latin American Studies Association, Washington.
- Stiglitz, J.E. (1974), Incentive and risk sharing in sharecropping, *Review of Economic Studies* 41(2), 219-256.
- Pingali, P.L., Hossain, M. and R.V. Gerpacio (1997), *Asian Rice Bowls: the Returning Crisis?*, CAB International, New York.
- Ponte, S. (2000), From social negotiation to contract: shifting strategies of farm labour recruitment in Tanzania under market liberalisation, *World Development* 28(6), 1017-1030.
- Porter, G. and K Phillips-Howard (1997), Comparing contracts: an evaluation of contract farming schemes in Africa, *World Development* 25(2), 227-238.
- Rello, F. and Morales, M. (2002) "The rural nonfarm economy and farm/nonfarm linkages in Queretaro, Mexico" in *Promoting farm/non-farm linkages for rural development*, Food and Agricultural Organisation, Rome.
- Runsten, D. (1992), Transaction costs in Mexican fruit and vegetable contracting: implications for Association and Participation, Paper presented at the XVIII International Congress of the Latin American Studies Association, Atlanta.
- Simmons, P.R. and A. Daryanto (1999), Indonesian agribusiness in the aftermath of the East Asian economic crisis, *Agrimedia* 5(3), 38-43.

Torres, G. (1997), *The Force of Irony: Power in Everyday Life of Mexican Tomato Workers*, Oxford Press, Oxford.

Wilson, A. (1990), The political economy of contract farming, *Review of Radical Political Economics* 18(4), 47-70.



**Figure 1:** Dorwood's transaction cost model for contract farming.  
*Source:* Dorwood (2001)