

LINKING SMALLHOLDERS TO MARKETS

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THE GHANA STRATEGY SUPPORT PROGRAM (GSSP) BACKGROUND PAPERS

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GSSP is a research, communication, and capacity-strengthening program to build the capabilities of researchers, administrators, policymakers, and members of civil society in Ghana to develop and implement agricultural and rural development strategies. With core funding from the U.S. Agency for International Development (USAID)/Ghana and a mandate to develop a multi-donor-funded Program, IFPRI launched GSSP as a partnership between Ghana and its development partners. IFPRI is working with these stakeholders to generate information, improve dialogue, and sharpen decisionmaking processes essential for effective formulation and implementation of development strategies. GSSP informs stakeholders on the role of agriculture and rural development in the broader economic and policy context in line with the emphasis placed on agriculture in Ghana's Growth and Poverty Reduction Strategy. GSSP supports the development and implementation of a system to monitor and evaluate progress toward achieving Ghana's growth and poverty reduction targets and the Millennium Development Goals.

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SUMMARY

Access to guaranteed markets for produce and for the acquisition of inputs is a major problem confronting smallholders. Local commodity markets are characterized by high volatility. On the other hand, international markets as well as markets offered by agro-industrial firms are relatively more stable but are inaccessible without specific channels such as those provided by predetermined producer–buyer relationships.

As part of IFPRI's support to Ghana's growth and poverty reduction strategy, research on the successes and failures and best practices in smallholder linkages needed to be carried out to provide evidence for the policy process. The questions addressed by the research are: (a) how can agricultural contracts be enforced in the face of Ghana's weak legal system; (b) what approaches can be used to certify smallholders for international markets, and (c) what policies are needed to provide infrastructure for export crop development.

The study adopts the principle of building on what exists by first assembling international best practices and comparing the Ghanaian practices with others to allow for suggestions on the path to follow. The approach of the report is literature review that identifies the types of cooperation arrangements that prevail, between smallholders and agribusiness and among smallholders and the basic conditions of successful linkages in terms of the partners involved, their respective roles and the institutional requirements. The information gathered from this review helps assess farmer cooperation arrangements identified in the fieldwork.

Why link smallholders and agribusiness?

Different stakeholders involved in a market relation have different motivations. Smallholders are motivated by the certainty of market access, reduction in price uncertainty, better access to inputs and reduced cost of inputs, and access to information and technology especially for new high value crops. The principal motivation of agribusinesses is assured supplies of produce, and regularity of supplies. However this is often linked to access to labor and land. If the motivation is for labor, the agribusiness engages smallholders to produce for them on the agribusiness's land. If it is land and labor that agribusiness wants access to, then they engage smallholders to produce on the latter's land. Close links with smallholders also enable agribusiness to take control of quality assurance. Government and development agencies actively promote and facilitate linkage arrangements as a strategy for development of smallholder agriculture.

Types of linkages

Farmer-agribusiness linkages identified in the literature are classified as according to level of association between parties, into primary, secondary and cross-cutting linkages. Primary linkages, which include spot market purchases, informal contracts, formal contracts, asset sharing relations and full integration of production and marketing arrangements is the most predominant.

Contract farming (written and verbal) is the most popular form of primary linkage. Contracts are classified either in terms of the level of dependency of producer on buyer, or in terms of the management or governance model of the production system. The classification by level of dependency includes, market specification contracts, production management contracts and resource providing contracts. The contract classification by type of governance includes the centralized, nucleus-estate, multipartite or intermediary models. We adopt the classification based on the level of dependency of producer on agribusiness. However facilitation by third parties which is explicit in the management model classification, is also highlighted.

Content of formal contract should cover certain basic clauses concerning price, quantity, quality, conditions under which produce will be accepted if at what point title on produce passes from producer to buyer, and responsibilities of parties when risk factors are realized. Respect for these clauses determines success of the contract transaction while continued engagement in the contract arrangement depends upon the benefits derived by contracting parties. Verbal contracts, by their nature tend to be based on trust, which can take long to cultivate. They are characterised by high levels of contract breaches.

Cases identified from field work in Ghana cover informal contracts, market specific contracts and resource providing contracts. Commodities affected in Ghana case studies include both staple and non-staple high value produce. A major feature of the Ghana cases is the facilitation by NGOs or development partners and the effort towards capacity building of smallholders for collective action based on farmer groups. The third party facilitation involves financing of production, provision of information, facilitating of price negotiation, provision of production infrastructure, linking farmers to service providers (e.g. research training organizations)

Criteria and requirements for Successful Agribusiness-farmer Linkage

Enhanced capacity of smallholders to meet international standards is often the beginning of a fruitful engagement in profitable value chain systems. Selection of smallholders, based on resource levels and experience, tend to enhance success of linkages. On the other hand, profitable markets, conducive physical and social environment and government support are preconditions for contract farming. Moreover, the willingness of

agribusiness to invest in supply chain development, itself motivated by profitability of the chain, has engendered and sustained relations between smallholders and agribusinesses. Other conditions that enhance agribusiness-smallholder farmer linkages are, correct choice produce, existence of farmer organizations, role played by the initiator of the linkage, asset specificity, and existence of an active facilitator such as an NGO.

Roles of stakeholders

Farmer organisations have been used as channels for delivering services to smallholders, and for negotiations on behalf of their members. In the case studies, several farmer organisations at different levels of development in terms of their ability to access services are identified. In all the case studies presented, agribusiness firms have played the role of providing inputs and credit, technical services, and avenues for smallholders to market produce. In some cases agribusinesses have certified smallholders for export market. The market access activities of NGOs are of an intermediation nature. In the survey the activities included provision of market information, linking producers to buyers, building the negotiation skills of smallholders, providing access to vital inputs such as improved seed, and providing technical information.

Challenges of Linkage arrangements

The challenges facing the various arrangements encountered in the fieldwork can be summarized as, incomplete supply chains e.g. Northern Region paddy farmers and rice processors; low level of development of farmer based organisations; lack of knowledge among smallholders about the conduct and requirements of high value markets; high prevalence of contract breaches from both sides (lack of enforcement); lack of transparency in price determination and assessment of quality of produce delivered by smallholders to agribusiness; and absence of a body to supervise contracts

Conclusions

Three different types of market linkage relations (**how market relation are executed**) have been identified from the Ghana case studies. These are the informal relations with only verbal or no written contracts, formal production contracts, and a limited vertically integrated production system. The cases of formal contracts fell under market specification or resource providing contracts (**what is in the contract**). There were no relations of production management contracts from the case studies.

Several weaknesses are identified in the nature of the contracts identified in the field vis a vis what the minimum content of a contract as identified in the literature. Price of produce at the time of delivery, mode of payment, and timing are always specified but not always

honoured. In the case of resource providing contracts involving tree crops, the price for the first harvest can be uncertain. The contracts are not too firm on quantities to be delivered. Although quality is an issue in the two formal contracts, its determination and assessment is always the prerogative of the buyer while the producer bears the full risk for rejects. In resource providing contracts, because payment to producer is tied up with the input supply costs, the sponsor almost always recovers their costs except in total crop failure. Contract enforcement was implicit rather than explicit. In the case of market specification contracts, there are no measures for contract enforcement. For resource providing contracts, (and even informal arrangements involving credit from traders to farmers), contracts are enforced by the interlocking of payment to producers with the cost of inputs, and complemented with monitoring. However monitoring systems are not always effective.

Although each linkage relation has its advantages, the weaknesses in terms of the practice are much more. These weaknesses suggest the areas that need to be strengthened, either by policy or support systems to make the market arrangements work better. This is where the roles of public agencies and civil society organisations in facilitation of market linkage arrangements become evident. In addition to helping to improve the governance systems of the arrangements, the facilitators can also help in providing public goods such as educating farmers on the needs of markets, building the capacity of farmer organisations to conduct business transactions, and supporting parties to draft good contracts.

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1. INTRODUCTION

Limited access to guaranteed markets for produce and for the acquisition of inputs is a major problem confronting smallholders. Local commodity markets are characterized by high volatility. On the other hand, international markets as well as markets offered by agro-industrial firms are relatively more stable but are inaccessible without specific channels such as those provided by predetermined producer-buyer relationships (Baumann, 2000).

In an age of market liberalization, globalization and expanding agribusiness, there is a danger that small-scale farmers will find difficulty in fully participating in the market economy. In many countries, such farmers could become marginalized as larger farms become increasingly necessary for a profitable operation.

Rural farmers and small-scale entrepreneurs lack both reliable and cost efficient inputs such as extension advice, mechanization services, seeds, fertilizers and credit, as well as guaranteed and profitable markets for their output.¹ Linkages between smallholders and agribusiness companies who have vested interest, facilitates smallholder access to these services either privately or by priority treatment from the public service providers. Similarly, cooperation among individual smallholders also positions farmers better to negotiate either in marketing their produce or procurement of inputs and other services (ibid).

Agribusinesses also have constraints that can be addressed through cooperation with smallholders. Agribusinesses require large volumes of produce to meet plant capacity of purchase orders, and these volumes must be supplied on a regular basis with a consistency in quality. Cooperation with smallholders is a strategy for agribusiness to gain access to land and labor without the complications of difficult land tenure systems and labor management. Cooperation with smallholders either through provision of necessary inputs and technical information or through direct control of the production process allows agribusinesses to control their supply systems to meet their needs of raw material supplies. Local resistance to land privatization in many indigenous areas means that large exporters must work with smallholders and their small landholdings in order to increase exports. On the whole, market linkages can be a means for the development of agriculture to bring about the transfer of technical skills in a way that is profitable for both the sponsors and farmers

Although these types of linkage arrangements exist in theory, they have not been widely practiced in Ghana. As part of IFPRI's support to Ghana's growth and poverty reduction

¹ <http://www.fao.org/DOCREP/004/Y0937E/y0937e02.htm>

strategy, research on the successes and failures and best practices needed to be carried out to provide evidence for the policy process. The questions addressed by the research are:

- 1) How can agricultural contracts be enforced in the face of Ghana's weak legal system
- 2) What approaches can be used to certify smallholders for international markets
- 3) What policies are needed to provide infrastructure for export crop development.

The research adopts the principle of building on what exists by first assembling international best practices, comparing the Ghanaian practices with others to allow for suggestions on the path to follow. This literature review aims to a) identify the types of cooperation arrangements that prevail, between smallholders and agribusiness and among smallholders; b) identify the basic conditions of successful linkages in terms of the partners involved, their respective roles and the institutional requirements. The information gathered from this review helps to assess farmer cooperation arrangements identified in the field work.

Field work covered three categories of stakeholders:

- a) Public and donor agencies, and NGOs involved in supporting farmer-market linkages;
- b) Agribusinesses linked up with farmers; and,
- c) Farmers involved in producing for agribusiness.

In a special case study of maize trading, information was also collected from maize traders in Tamale, Techiman, Kumasi, Sunyani, and Accra, to assess the coordination of their trade with farmers. A list of organizations contacted and their core business is attached.

2. LITERATURE REVIEW

2.1 Why link smallholders and agribusiness or promote between smallholders for service delivery

Market access is crucial in smallholder development because it creates the necessary demand, offers remunerative prices, thereby increasing smallholder incomes. The incentives brought about by better market access can result in expanded production and the attendant adoption of productivity enhancing technologies. It is for these reasons that the drive to improve market access is central in efforts at developing smallholder agriculture for poverty reduction.

The concept of linkages was first mooted by Hirschman (1958) in development economics literature to describe broadly, the complementarities and dependencies among industries in the development process. Modern usage of the concept covers agric-industry linkages, and systems approach adopted by firms to increase competitiveness (Santacoloma and Rottger, 2003). In the context of competition theory, linkages refer to cooperation between firms with similar operations (horizontal integration) or between enterprises at different levels of the supply chain (vertical integration) (Santacoloma and Rottger, 2003).

Smallholder and agribusiness linkages are vertical integrations aimed at meeting the constraints of either party. Smallholders generally tend to be semi-subsistence farmers, and partially linked to markets usually through a diversification of commodities produced. On the other hand, smallholders are also often constrained in what they can produce, by limited marketing opportunities, thus limiting their ability to diversify into new crops. Farmers will not cultivate unless they know they can sell their crop, and traders or processors will not invest in ventures unless they are assured that the required commodities can be consistently produced. A relation such as contract, that links smallholders and agribusinesses offers a potential solution to this situation by providing market guarantees to the farmers and assuring supply to the purchasers². Contracts thus constitute forms of cooperation.

Small volumes of output, from scattered individual producers pre-dispose smallholders to weak bargaining position in the market. Seasonality in production and inter-year variability in output are a source of price variability and unstable farm incomes for smallholders. Access to a guaranteed market or buyer can reduce this price uncertainty, although it also requires that producers increase volumes and take measures to stabilize production. Cooperation among smallholders and between agribusinesses can overcome these limitations of smallholders. Where price(s) to be paid are specified in advance, farmers are

covered; however in instances where prices are not fixed prices but are related to the market prices at the time of delivery, farmers are still dependent on market volatility.²

In the face of state withdrawal from distribution of inputs, smallholder access to inputs has become difficult either because of cost, or because of inadequate distribution channels. The private sector has not been able to fill the void left by public sector withdrawal from the input distribution system. This has been partly due to low demand for inputs by scattered smallholders. It is expected that successfully linking smallholders and agribusinesses will create the needed incentive for smallholders to use more inputs. Also the conglomeration created by several smallholders supplying produce through a dedicated channel will help to reduce the cost of delivering inputs to them through bulk purchasing.² Furthermore the linkage offers opportunity for interlocking transactions of produce supply and input or more generally service delivery.

Linkage to agribusiness is even more desirable where smallholders are being engaged in the production of non-traditional high value produce because the production systems are more costly, the risks associated with them is higher than it is with the traditional staples, the information needs and skill requirements of non-traditional commodities are also more demanding (Patrick, 2004 – Contract farming in Indonesia).

Agribusinesses are also interested in linking up with smallholders as a strategy for increasing bulk, and accessing land where access to large tracts of land is limited. Production by smallholders also increases access to labor without the accompanying problems of labor management. Close links with smallholders also enable agribusiness to take control of quality assurance. The interests of government and development agencies in successful smallholder links to markets also stem from the potential such linkages hold for developing smallholder agriculture. The linkages help smallholders make the transition from subsistence oriented to commercially oriented production.

2.2 Types of linkages

A number of classifications of market linkages, and of contracts have been identified in the literature. Figure 1 illustrates a consolidation of the different types of classifications, and demonstrates the place of agricultural contracts as the most prevalent instrument for linking farmers to markets or agribusiness.

Santacoloma and Rottger (2003) have classified farm agribusiness linkages into primary, secondary and cross-cutting linkages (These specify who is in the relation). Primary linkages include a range of arrangements between smallholders and agribusinesses for raw

² <http://www.fao.org/DOCREP/004/Y0937E/y0937e02.htm>

material acquisition by the latter. The terms or nature of the primary linkage, which define how business is conducted between parties, may vary in complexity from simple ad hoc spot market purchases to informal contracts, formal contracts, asset sharing and then full vertical integration. The strength of the links increase as parties engage in contracting arrangements, and interact more through asset sharing and integration, the latter being managed by intra-firm control. Contracts occupy an intermediate position in this spectrum of possible relationships (Pleatsikas and Teece, 2001).

Secondary linkages as defined by Santocoloma and Rottger, refer to arrangements with inputs dealers and providers of services such as training, transport, and storage. These services are most required for participation in export markets of fresh produce where food safety standards are very high.

Cross-cutting linkages are links to providers of financial services or market information, or other technical support, that in turn harness the effectiveness of the primary and secondary linkages.

Primary linkages are widespread and are often the starting point for most linkage arrangements, with the secondary and cross-cutting linkages being introduced to as complementary measures to strengthen the primary linkages. Contract farming is a popular type of primary linkage that has a long history and is also gaining popularity in recent times to address failing export production systems. The following sections outline the models of contract farming that exist in theory and practice. The contract node is further classified according to what is involved in the contract and these are market specification, production management or resource providing contracts.

Market specification contract is the simplest form of the agricultural contract, it states the price, quantity and quality of product that will be delivered some future date. The production management contract also specifies price, quantity and quality, but also dictates how the producer will produce the commodity. This is growing in importance as quality issues rise in international food commodity trade. The most complex form of agricultural contract is the resource providing contract. Here the buyer provides all or part of the inputs to be used in producing the output to ensure that output meets desired quality standard.

One other type of classification of contracts is based on the management model of the production or trading system, and these are the centralized model, the nucleus estate model, the multipartite model and the intermediary model. The centralized model is vertically coordinated model which provides production and marketing services to farmers on their own land (Baumann, 2000). The sponsor purchases the crop from farmers, and processes or packages and markets the product. Except in a limited number of cases, farmer quotas are normally distributed at the beginning of each growing season and quality is tightly controlled.

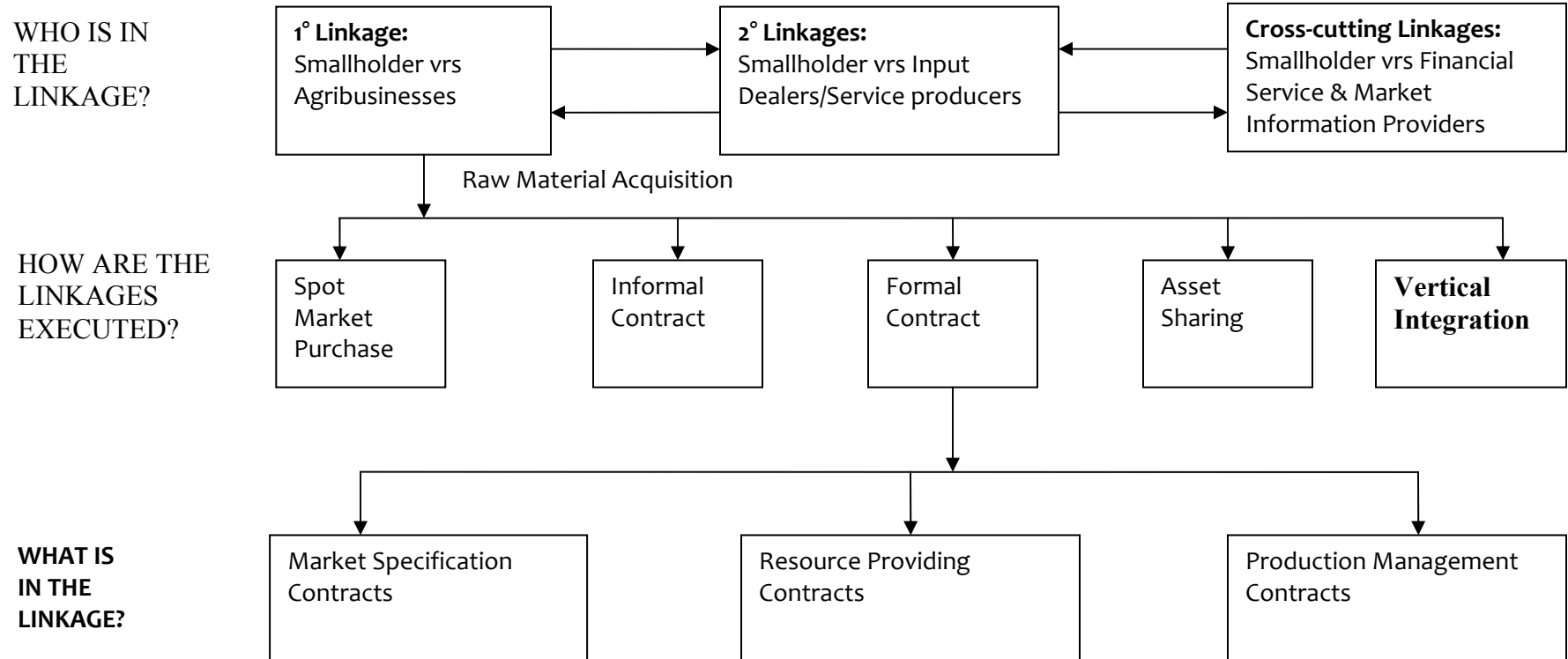
In the nucleus estate model, the sponsor of the project owns and manages its estate plantation. Individual farmers in the surrounding of the estate are engaged in contract terms to grow crops which are bought for processing and marketing (ibid). The estate is often fairly large in order to provide some guarantee of throughput for the plant, but on occasion it can be relatively small, primarily serving as a trial and demonstration farm. A common approach is for the sponsors to commence with a pilot estate then, after a trial period, introduce to “satellite” growers, the technology and management techniques of the particular crop. Nucleus estates have often been used in connection with resettlement or transmigration schemes³.

Some agribusinesses prefer to sub-contract procurement of raw materials to intermediaries as way of sharing costs of monitoring and enforcing contracts and such arrangements are classified as the intermediary model. Most of the time large food processing companies and fresh vegetable entrepreneurs purchase crops from individual “collectors” or from farmer committees, who have their own informal arrangements with farmers. Sponsors may by this, lose control over production and over prices paid to farmers by middlemen. Technical aspects of production and management inputs of the sponsors can become diluted and production data distorted thereby resulting in lower income for the farmer, poorer quality standards and irregular production.⁴

³ <http://www.fao.org/DOCREP/004/Y0937E/y0937e02.htm>

⁴ <http://www.fao.org/DOCREP/004/Y0937E/y0937e02.htm>

Chart 1: Types of Agricultural Market Linkages



2.2.1 Theory and Practice of Contract Farming

Contract farming is a vertical coordination between a central processing or exporting unit on the one hand, and growers of agricultural products. In this relation, the terms of the purchase are arranged in advance through contracts (Baumann, 2000; Warning and Soo Hoo, 2000). The terms of the contract vary and usually specify how much produce the contractor will buy and what price they will pay for it. The contractor frequently provides production inputs, credit, extension and other forms of technical advice to the grower in return for market obligations on such considerations as the methods of production, the quantity delivered and quality of product. While in some contracts partners agree to trade a certain volume of production, the terms of other contracts are based on price (which can be market price; average price over a period of time, difference between a basic price and market price etc.).

Glover and Kusterer (1990) suggest that contracts can be thought of as varying in 'intensity'. At one extreme, the company pays the market price on delivery and exercises little control over production. At the other extreme, prices are fixed and the contractor exercises constant and rigorous control over all aspects of production. Contract arrangements therefore assume one of three characteristics which are not mutually exclusive: market specification contracts, resource providing contracts, or production management contracts.

Contracting is fundamentally a way of allocating risk between producer and contractor, whereby the former takes the risk of production and the latter the risk of marketing. Although, critics such as Dirven (1996) and Schejtman (1996) from one perspective regard contract farming as a tool through which multinational agro-industrial firms can exploit unequal power relationships with growers, supporters such as Warning and Soo Hoo (2000) consider that contract farming has the potential to substitute for the state in the wake of neo-liberal reforms in the agrarian sector, as the state disengages from the provision of inputs, extension services, credit, and price supports.

Little and Watts (1994) trace the popularity of contract farming since to mid 1980s to IMF austerity measures and attempts to revive flagging export markets. The World Bank has also promoted contract farming as a way of creating dynamic partnerships between private capital and smallholders, which will lead to technology transfer, innovation and market growth (World Bank, 2005).

2.2.2 Informal Contracts

The smallholders under this scheme depend heavily on government agencies for support services because their buyers have limited funds and also lack the capacity to provide such services. Buyers in the informal model often purchase crops for which there are

numerous other market outlets resulting in very high default by farmers. In some parts of the world, traders, who may not own processing or packaging facilities themselves, purchase crops for onwards sale to processors and packers.⁵

Individual developers in the informal model

1. In the early 1990s firms in Sri Lanka were encouraged by the Government to participate in the production of gherkins. Under “production contracts” companies provided material and agronomic inputs, particularly advice on post-harvest and packing practices, to over 15,000 rural households. Because some of the firms were not agriculturally orientated, they used the services of local “agents” to organize and manage the farmers’ crops⁶. The local agents in turn engaged farmers without written contracts.

2. In the South Pacific there has been a history of individual expatriate and local entrepreneurs who organized farmers to grow bananas, squash and papaya for export. In virtually all cases farmers worked under verbal contracts and were given free seed and basic technical advice, but little else in the form of material inputs. The success and durability of these developers has been marginal.

3. In the northern provinces of Thailand farmers grow chrysanthemums and fresh vegetables for the Chiangmai and Bangkok markets, under verbal agreements with individual developers. No technical inputs are provided but in most cases the developers advance credit for seed, fertilizer and plastic sheeting. All agronomic advice to farmers is given by government agencies that also organize training courses for the growers. Farmers expressed a preference for growing chrysanthemums as this was more profitable and they thought there was also less risk that the developer would abscond, as had happened in the fresh vegetable trade.

Informal contracts abound in Ghana, from the traditional staples such as maize and cassava, to horticultural products such as pineapple, citrus and vegetables. Traders of staple crops provide seasonal credit to farmers and in turn are given the first option to purchase the produce, at the spot market price at time of harvest. Fruit processors purchase bargain with growers at the beginning of the season for delivery fruits at a give price. The contracts are honored as long as the spot market prices are lower than the agreed price.

⁵ Shepherd, A. W. and Farolfi, S., 1999: 74-75.

⁶ Dunham, D., 1995.

A survey of procurement systems of supermarkets, restaurants and hotels in Accra reveals an aspect of this model. While many buy from the open market, others rely on regular suppliers who in turn procure produce through informal links with farmers. The suppliers do not have any interlocking transactions with farmers; they exercise no control over production and do not provide inputs to farmers. Indeed some suppliers buy produce on credit and pay after they have sold the produce. Similarly, traders who provide seasonal credit to farmers may also buy extra-contractual produce on credit.

2.2.3 Formal Contracts

The literature is largely silent on the content of contract. The following details with respect to the specification of contracts are for the United States of America⁷. What ever the form of contract, the agricultural contract should specify first, quality standards to be met; second, the conditions under which produce will be accepted or not, who owns rejected product, and third when title over produce passes from one party to the other.

The third component is especially important in production management and resource provision contracts, where an agribusiness sponsors the production of produce. The fourth and final provision in the contract is the specification of each party's responsibilities upon the realization of risk factors that prevent a party's performance (e.g. crop failure due to drought). Usually the clause states that the parties affected should give notice of the non performance within a specified period of time, in a specified manner to a specified person or office. The adherence to these clauses determines the success of contract. However, continued engagement in the contract arrangement will depend upon the benefits derived by the contracting parties in the business sense.

The cases presented below are classified according to a) market specification, b) production management and c) resource provision classification. The contract details are provided according to the information available.

2.2.3.1 Market Specification Contracts

Cocoa in Ghana

Smallholders have grown Cocoa since it was introduced into the country in the 19th century. The state marketing board purchased the bean and the state provided support to farmers in terms of extension and subsidized inputs for crop management and disease control, as well as subsidized inputs. This practice prevailed until the reforms in the cocoa sector in

⁷ <http://www.weblocator.com/attorney/il/law/agnatres.html>

the late 1990s, which saw a liberalization of internal marketing of the bean, removal of subsidies on inputs although there has been a reversal of the subsidy removal policy since 2001. Any changes in the producer prices are announced at the beginning of the season and farmers are paid upon delivery of cocoa beans.

The success of the cocoa market specification contract model has been due to an active public sector body that was responsible for controlling and monitoring many aspects of production process of the crop, including research into development of varieties, and appropriate crop management practices. The government body was also solely responsible for purchasing the crop. This model made it possible for the taxing of farmers directly for the services received and for general economic development of the country. The privatization of internal cocoa marketing introduced a number of cocoa purchasing companies to compete with the Produce Buying Company that emerged from the divestiture of Cocoa Marketing Board.

The downside of high level of involvement of the public sector in production and marketing of cocoa has been the high taxation of farmers. Until the mid 1980s when cocoa prices were adjusted upwards, they had received only about a third of world prices. The result was low yields due to non-adoption of recommended agronomic practices.

While prices have been increased to nearly 70% of world price, the competitive strategies of purchasing companies have tended to thwart quality control.

Cotton in Ghana⁸

Cotton production in Ghana has always been under sponsorship by processing or marketing firms. The Ghana Cotton Development Board (GCDB) sponsored seed cotton production to feed its ginnery by providing them with seed, agrochemicals, extension advice, and guaranteeing to purchase seed cotton produced by the farmers. In 1986, the GCDB was transformed into the Ghana Cotton Company with the Ghana Government, the agrochemical suppliers, the textile companies and the Ghana Commercial Bank as share holders. In 1995, the Government of Ghana sold off her 30% share and washed off her hands from the sector. The liberalization of the sector in the early 1990s saw entry of new firms and by 1997, there were 12 firms.

The private companies adopted the sponsorship practices of the Ghana Cotton Company and its parastatal predecessor by providing seed, agrochemicals, technical advice and other agricultural services to registered farmers, who were in turn required to sell seed cotton to the sponsoring companies. Cotton is not to be inter-cropped with any other crops.

⁸ Poulton (1998) provides an Institutional economics perspective of the workings of contracts between cotton farmers and cotton companies.

Farmers are paid prices net of cost of inputs and other services, as payment for their land and labor. Seed cotton is graded (grade A or B), weighed in the home of the farmer or at a central point in the village by staff of the cotton companies and a chit issued to each farmer for his seed cotton and payment is made usually within 2-4 weeks in the village. Ghana Cotton Company and Plantation Development Ltd introduced incentive bonuses for yields achieved above some target, in addition to premium paid for grade A cotton.

During the era of the Cotton Development Board, and the early years after the liberalization of the industry, farmers did not negotiate for prices. Prices were agreed upon at the beginning of the season by cotton companies. The purpose was to avoid diversion of cotton by farmers from sponsors to non sponsors. However since 1998, it has become necessary for farmers to negotiate with cotton companies for prices.

Unlike cocoa, the cotton companies did not go into research. The harmonious interlocking transactions system suffered setbacks in the late 1990s as a result of unethical practices by farmers and smaller companies. The farmers diverted inputs to food crops because of the relative scarcity and high cost of the inputs following privatization and removal subsidies. Farmers also sold seed cotton to non-sponsoring companies who went behind the sponsoring companies to offer higher prices.

Transvaal Sugar Company of South Africa

Sugar industry in South Africa has been under the control of the South African Sugar Association (SASA) who administers the production and supply of sugar cane to the millers as well as the production, marketing and distribution of sugar. The Transvaal Sugar Limited (TSB), established in 1965, employs around 4,000 people and has the capacity to produce 350,000 tonnes of sugar annually from its two factories.

The sugarcane supply-processing operation of the Transvaal Sugar Company consists of the company estates and a range of contracted smallholder as well as medium to large suppliers⁹. The contractual arrangement between smallholder out-growers and the Transvaal Sugar Company (TSB) is controlled by a comprehensive specification contract, the conditions to which all parties must adhere. The price paid to out-growers is determined according to the specifications of the South African Sugar Association.

The link of smallholders with the Sugar Company has improved livelihoods and alleviated poverty in many households in the communities. The multiplier effects are also visible as more small enterprises got established. Thus a large benefit for the community has materialized out of smallholder agribusiness linkage.

⁹ <http://www.fao.org/docrep/008/y5785e/y5785e0d.htm>

The medium to large growers are contracted by way of a long-term specification contract, to grow sugar cane in modern capital-intensive mono-cropped sugar cane production system with high levels of management inputs. The farmers are largely autonomous and the growing and delivery of sugarcane is self managed with the timing of the harvesting and delivery operations coordinated by company officials.

Intermediaries in Thailand's vegetable industry

In the snap-frozen vegetable industry in Northern Thailand, two companies directly contract out to middlemen, or “collectors”, who organize over 30 000 farmers to grow soybeans, green beans and baby corn, primarily for the Japanese market. Each collector normally controls and supervises from 200 to 250 farmers. Collectors are responsible for all field activities from sowing to harvesting. They are paid a commission based on the total production of the farmers they supervise. The sponsors' agronomists specify and enforce the varieties and fertilizer to be used as well as the sowing programs and crop husbandry methods. The companies also employ field officers to provide technical support to the collectors and their subcontracted farmers.

2.2.3.2 Production Management Contracts

PepsiCo in India

PepsiCo in Punjab has successfully applied this model in the production of tomato, Basmati rice and groundnut (Spice, 2003). The company launched its agribusiness in India, focusing on the production of tomatoes to feed its mega processing plant. It then replicated its successful model in tomato to Basmati rice and groundnut.

In the case of tomato, the focus was on technology transfer to farmers to produce desired quality of tomato, and over a longer period of 55 days rather than the 25-28 days that farmers had been used to. Farmers grow PepsiCo's produce on their land. The company provided seed, agricultural practices and regular inspection of the crop and advisory services on crop management to farmers to grow the special tomato variety on their land. Quota slips were used to procure produce from farmers on a timely basis, and presumably on some agreed price¹⁰. Defaults have been minimal because farmers find the technologies offered by the company to be profitable. The impact on participating farmers has included new options for

¹⁰ There is no information on price determination, whether it is a fixed forward price or a flexible spot market price.

diversification of income sources, productivity increases, and introduction of modern technology.

The success of PepsiCo' linkage with farmers in tomato and other commodities has been attributed to the following:

- PepsiCo developed a strategic partnership with local research institutions
- Research – crop selection through multi-location field trials.
- Close monitoring of crop by company scientists
- Well-trained and committed extension workers
- Timely supply of quality inputs to farmers
- Use of quota slips to procure produce from farmers on a timely and regular basis.
- Use of ICT even for communication with field officers
- Timely payments of farmers
- A well established logistics system and global marketing standards
- Company's dedication to export of quality produce

The Kenyan Tea Development Authority (KTDA)

The Kenyan case constitutes one of the major success stories in linking smallholder to production inputs and market for products through the multipartite contract-farming scheme. Tea and sugar production are clear manifestations of how linkages between smallholders and agribusiness can boost growth in output. Tea output in Kenya has increased by 700% since the 1920s with a large part of it being smallholder contribution (Baumann, 2000).

The colonial state targeted tea as a peasant crop and its production was expanded after independence. KTDA was set up in 1964 by the Government of Kenya, the Commonwealth Development Corporation, Organization of Petroleum Exporting Countries, and the European Economic Commission. In two decades, more than 57,000 hectares of tea was cultivated by 151,000 smallholders increasing to 406,000 as at 2003 under the supervision of KTDA (Baumann, 2000; IFAD, 2003). The smallholder sector produced premium quality tea which commanded high prices and has accounted for 45% of annual tea exports (ibid).

The arrangement involves a government parastatal which is responsible for marketing and input distribution, and a management and ownership structure which includes the government, donors, trans-national capital and an extension system combining government and private support.

The success of KTDA has been attributed to effective control at all levels of the operation. These activities include ensuring quality of planting material by controlling nurseries; controlling the quality of production through selective registration as well as the providing effective extension services and quality supervision. Finally the exercise of a

buying monopoly accounted for the success of the scheme. The reasons for KTDA success is therefore summed up in state support for the scheme, quality checks and incentives for quality tea, and a management structure which allows for farmer participation (ibid).

The contract growing therefore involved a government parastatal and a management and ownership structure which includes the government, donor capital and an extension system combining government and private support. The KTDA registers farmers and guarantees purchase of output as well as technical assistance and credit. Farmers on the other hand are expected to produce high quality tea in good time, observing the necessary production practices recommended. Payments for the produce are made; one for quantity and another as the bonus received for quality. This provides an incentive for the outgrowers to maintain good management of their tea. Farmers cannot join the scheme if they do not have enough resources of land; secondly, farmers have been restricted to an average holding of one hectare to ensure that plucking standards are maintained. These outgrowers are also represented in policy-making and 8% of registered farmers are shareholders in tea factories.

KTDA benefited from exceptionally favourable ecological conditions for tea, a high degree of external autonomy, and the political influence of the growers. In addition, tea exports were not subject to tax until 1982 and no price stabilization was attempted so the benefits of rising world prices went directly to the producers (Tiffen and Mortimore, 1990). The KTDA also depended heavily on government resources and imposing direct costs on the government (e.g. extension staff) which were not transferred to the growers.

Resource Providing Contract

The Oil Palm Estates in Ghana

In the oil palm industry, oil palm estates use contract farming to access land. Contract farmers are provided with inputs on credit for the establishment of the crop. The loan is recovered over a number of years as farmers sell palm fruits to the nucleus estate for processing. Other farms in the horticulture sector that operate with smallholders on a similar model are Blue Skies, Tongu Fruits and Integrated Tamale Fruit companies. In all these cases, the sponsors are the agribusinesses. They have extended their services to include certification of the outgrowers' produce for the European market

FELDA's Approach in Malaysian Rubber and Oil palm industry

The Malaysian experience of contract farming is characterized by heavy public sector involvement in land settlement schemes and reliance on traditional tree crop for exports like rubber and palm oil. The responsible public sector body is the Malaysian Federal Land Development Authority (FELDA).

FELDA works through cooperatives and thereby encourages share ownership. The key reasons for the establishment of the schemes were to settle new lands and to move the Malaysian peasantry towards the production of export crop for enhanced income. The settlers are allocated 4 hectares each, arranged in blocks of 100 for cooperative work. These plots are managed by the holders under the supervision of a field assistant. On maturity, the holdings become the responsibility of individual. The growers receive title to the land once they have repaid their debt.

FELDA has set up and controls 442 schemes, covering 714,945 hectares and involving more than 100,000 families. Ghee and Dorral (1992) evaluated the schemes as successful, on the criteria of increasing farmer incomes, the long waiting lists of applicants desirous to join the schemes, and an annual economic return of 20% to the projects. The yields achieved on FELDA schemes were considered to be impressive; matching those of plantations for rubber and exceeding those of oil palm outgrowers by 30–300% (Tiffen and Mortimore, 1990).

The successes notwithstanding, FELDA incurred high cost to the government due to the long span of the crops. Repayment rates are good mainly because monthly loan installments are deducted from the settlers' incomes. The annual loan recovery however, fluctuates with the commodity price and it takes most settlers a minimum of 15 years to repay their debts.

Small-Scale Growers in the Timber Industry of South Africa: Sappi's Project

The forestry industry is an important player in the South African economy. This industry consists of two primary segments, namely, the growing of timber, and the processing of timber¹¹. The industry is a major supporter of the small-scale grower sector, helping in the development of 15 000 timber growers. One variation of the woodlot schemes is coordinated and sponsored by agribusiness and Sappi's Project Grow is an example of such schemes. The project is a multipartite scheme launched in 1983 by Sappi Forests, the Gencor Development Fund and the Kwazulu Department of Agriculture and Forestry with objective of developing viable small scale timber operations in rural South Africa and converting rural subsistence farmers into emerging commercial operations. The smallholders occupying on average 0.6 hectares land mostly located within a 100 kilometer radius of the company mill.

The Sappi Project Grow arrangement provides small farmers with financial assistance, seedlings, technical advice and a guaranteed market. In addition, advances are paid out to the farmer for completed certified work over the growing period of the trees to ensure

¹¹ <http://www.fao.org/docrep/008/y5785e/y5785e0d.htm>

that operations are funded over the growing cycle. All the contracts have the approval of the local tribal authority.

The number of growers has increased over 70 times in the period 1989 to 2001. Key to the success of the project has been the available input and also regular extension assistance in management practices and fire preventive measures. The growers are also aided in negotiation with harvesting and transport contractors if they request for such services.¹²

The grower is obligated to sell the timber to Sappi Forest and this timber must comply with the stated mill specifications. The supplier must also comply with Sappi Forest's instructions to harvest the timber at a specific age. The price paid for timber is negotiated between the parties and corresponds to the prevailing market price. Stringent clauses are built into the contracts to forestall breach of the contract and the manner in which the contract will be enforced. The grower is not allowed to cede any rights or obligations to third parties and all notices to the grower are to be delivered personally by the company or at monthly Project Grow meetings.

FARMAPINE farmer owned model in Ghana

The only example of the multipartite model in Ghana is the farmer-owned model under the trade name of Farmapine. Farmerpine was a company established as part of the Agricultural Diversification project with support from the World Bank. The idea was to have farmer cooperative produce for a company in which they had shares. At the inception, the parties included the Government of Ghana, the World Bank, farmer cooperatives, two pineapple export companies forming the nucleus, and a couple of NGOs providing technical services. The government and World Bank provided the funding (IDA loan); Technoserve provided capacity building services for the farmer cooperatives in governance and in producing export quality pineapple; Amex International linked the company to external market.

The model provided opportunity for the farmers to be part owners of the company through acquisition of shares. Eighty percent of the shares of the company were acquired by five smallholder cooperatives with financial assistance of the World Bank. Established in 1999, Farmapine provided the cooperative members with agricultural inputs, credits, and technical assistance and purchased their produce. It distributed agrochemicals to the members and occasionally gave them credit to employ necessary farm labor. The company also employed agronomists who regularly visited the members of the cooperatives and instructed them on a specified cultivation practice to ensure the export standards of pineapples (Takane, 2004).

¹² <http://www.fao.org/docrep/008/y5785e/y5785e0d.htm>

The smallholders in turn, were required to use the inputs provided on their pineapple farm, adhere to the recommended practices and deliver quality produce at the required time. The costs of agrochemicals and the amount of credit provided to farmers were deducted from the value of the harvest when the company made payments to them. Government played a supportive role in the creation of the congenial environment. The success of the model has been attributed to inputs and technical assistance by the company to the smallholders and adherence of smallholders to recommended management practices. Dynamics of external market in terms of shift in pineapple variety from the smooth cayenne to MD2 has presented new challenges in terms of capital mobilization technical know how to the company and its farmers.

A similar model is being created by the Association of Church Development Programs (ACDEP) an NGO in northern Ghana. The Savanna Farmers' Company has been established and linked downstream to farmer cooperatives, and upstream to agribusinesses (oil processors and European importer). The NGO is managing the linkage arrangements by identifying funding sources, providing training to farmer groups in group management, and accessing inputs and technical advice for farmers. The initiative is young and the challenges to be surmounted are both internal and external to the linkage arrangement.

NOVASEN's Experience in Confectionery Peanuts Industry in Senegal

Production of peanuts has been a significant contributor to the Senegalese economy since the 19th century. NOVASEN, a private company owned by French and Senegalese shareholders has positioned itself as a major stakeholder in the confectionery peanut industry. They now operate largely on contract-farming scheme. As 2000, NOVASEN worked with 32,000 growers and produced approximately 40,000 tonnes of peanuts annually (Warning and Key, 2000). It provides growers with credit, seeds, fertilizer, agro-chemicals and extension services. The collaboration under the scheme yielded high returns to the extent that 98 to 100 percent of growers in a normal year comply fully with the contract terms and repay their entire loan

More importantly, NOVASEN uses local intermediaries in screening potential growers, monitoring production techniques, and enforcing repayment. The intermediaries who may be growers themselves are members of the villages they serve. The use of intermediaries largely accounts for the success of the company in mitigating the transactions costs associated with working with smaller growers. Screening is less costly, if not costless for a village intermediary because of ease of information flow in rural environment, and long association that allows knowledge of peers. In addition, the intermediary is able to mobilize social sanction to penalize growers who attempt to renege on their contract - particularly since the

village may be cut off from the scheme if default becomes significant. Consequently the costs of monitoring and enforcing contracts are dramatically reduced.

The critical aspect of this model is the use of an intermediary by the agribusiness to access information about smallholders that will help the agribusiness reduce risk of renegeing on contract by smallholders.

Upper West Agro-Enterprise and Soybean production

A soybean processing enterprise in the Upper west region of Ghana (Upper West Agro-Enterprise) has linked up with smallholder farmers to supply its raw material (soy grain). The processing enterprise provides farmers with tractor services for ploughing, fertilizers, seed and haulage services. Farmers provide land and labor for soybean production and deliver the produce to the processing enterprise at harvest. The grain is cleaned, weighed and stored by the enterprise. Whenever the farmer decides to sell, he is paid the current market price net of costs of inputs and services provided by the processing enterprise.

The processing plant does not seem to have problems with marketing its output. The enterprise benefits from NGO donor funding as well as bank (ADB) financing.

Although we have attempted to categorize type of agribusiness farmer relations, the cases presented above suggest that there may be overlaps between the categories. This is particularly so because there is often a transition from one type into another as services rendered to farmers expand. Sometimes additional strategies are developed to get around problems that emerge in the original relationship. Because these relations evolve over long periods of time and under different contexts (e.g. macroeconomic policy, trends in world market prices, institutional and socio cultural factors), a model that is successful at a point in time and in a particular socio cultural context may not be workable over time or under different contexts. It may therefore be inappropriate to prescribe one model or the other as the most workable. What is reasonable is to identify the ingredients that have facilitated successful contractual relationships.

In the next section, we examine the key criteria for assessing success of agribusiness farmer linkages. This is followed by a distillation of the key factors of success from the in international cases and the practice in Ghana. We also examine the extent to which smallholders can participate in formal linkages and conclude with advantages and disadvantages of the different farmer-market linkage relations.

2.3 Criteria for Successful Agribusiness-farmer Linkage

Each linkage is initiated to address particular needs of partners. Smallholders need markets but they also often need seasonal capital and inputs to enhance productivity. Agribusinesses need produce of a certain volume, quality and time frame. Any linkage arrangement that meets the needs of parties can therefore be deemed successful. The long-term impacts of the arrangements will however include livelihood improvements and increased output of commodities. Enhanced capacity of smallholders to meet international standards is often the beginning of a fruitful engagement in profitable value chain systems (e.g. smallholders in the Kenyan fresh vegetable export supply chain).

The positive income impact to households has been recorded in cases covering tea and horticultural production in Kenya, rubber in Malaysia, cotton in Zambia, and tomato in India (Spice, 2003). In such cases, farmers have shown considerable persistence in the relations an indication of the schemes being beneficial to them. Contract farming in cash crops often brings significant changes with respect to both size and frequency of payments to the recipients. Comparative studies of income from contract farming in Africa (Little and Watts 1994) have recorded average increases in income for between 30–40% (moderate) and 50–60% (high) proportion of participants.

However, due to high transactions costs and information costs in the market environment in which production takes, one of the strategies for successful relations is selective participation usually based on resource levels and experience¹³. Such criteria are likely to deselect poorer farmers. Therefore to the extent that the benefits from a contract farming scheme accrue more to larger growers than to smaller growers, the scheme will reinforce income stratification. To the extent the opposite is true, the scheme will have an equalizing effect.

Technology and skills transfer to non target crops are some spin-offs from agribusiness farmer relations. **Glover (1987)** argues that, apart from straightforward technology transfer, outgrowers can learn, how the market works, how to account and how to run their farm more like a business. Farmers often apply techniques introduced by management (ridging, fertilizing, transplanting, pest control, etc.) to other cash and subsistence crops.¹⁴

However, **Carr (1993)** has queried the medium and long term consequences of some new technologies, because the technologies often transferred are for monocropping systems and therefore may not transfer knowledge on how to manage the farming system as an integrated system. Also, because contractors sometimes find it difficult to coordinate

¹³ http://www2.ups.edu/econ/working_papers/00-6.pdf

¹⁴ <http://www.fao.org/DOCREP/004/Y0937E/y0937e02.htm>

production amongst smallholders, they focus on standardized inputs and production procedures. This approach fails to build on the outgrowers' existing knowledge of their micro-environment, and therefore does not necessarily contribute to the development of a smallholder technology as an integrated system.

The food and nutrition impact of the farmer-agribusiness relations has been assessed for contract farming with the conclusion that contract farmers have not been affected negatively and that the food consumption and nutrition of poorest households may have improved (Eaton and Shepherd, 2001).

2.4 Requirements for Successful Farmer-Agribusiness Linkages

Eaton and Shepherd have identified profitable market, conducive physical and social environment and government support as preconditions for successful contract farming but these will apply to agribusiness-farmer relations in general. Other conditions that can be deduced from cases in the literature are type of product, farmer cooperative that acts as an effective intermediary between the agribusiness and individual farmers and transparent pricing and grading system. Finally, the willingness of agribusiness to invest in supply chain development, itself motivated by profitability of the chain, has engendered and sustained relations between smallholders and agribusinesses.

The cases reviewed offer a number of conditions that enhance agribusiness-smallholder farmer linkages. These include correct choice of produce, existence of farmer organisations, role played by the initiator of the linkage, asset specificity, and existence of an active facilitator such as an NGO. Mutual trust and respect for that trust are crucial in more formal links that border on contracts between parties, whether formal or informal. However various case studies show some of these factors are more important than others.

2.4.1 Profit for the farmer

Unless either the agribusiness or farmers achieve consistent and attractive financial benefits, the linkage arrangement is bound to collapse. Farmers should be assured of higher net incomes from entering into a contract than they could from alternative activities with the same, or less, risk. Low returns compared to returns from alternative markets are always at the root of extra-contractual sales of crops and diversion of inputs to non-contract crops. In Ghana, the ability of market women to pay higher prices for cassava under the PSI for starch processing, and for tomato grown under contract for a processing factory has undermined contract relations between the agribusiness firms and farmers.

2.4.2 The physical environment

The suitability of physical production environment for the specific crop or livestock determines yields, quality and profitability and is therefore crucial for the success of any agricultural investment. Existence of an adequate communication system that includes roads, transport, telephones and other telecommunication services is a precondition for agricultural investment in rural areas. Reliable power and water supplies are particularly vital for agro-processing and exporting of fresh produce.

Many agribusinesses will require association with farmers who are located within a close range of the processing plant or pack house. For example, Jei River Farms, one of the large pineapple production and exporting firms in Ghana plans to start at outgrower scheme but will only deal with farmers within a 15 kilometer range of the company's main farm. This is because of cost implications as the company plans to provide roads to the smallholder farms¹⁵.

A precondition for the export of horticultural crops under contract is the availability of regular airfreight schedules; fresh vegetables and cut flowers depend on adequate cargo space to international markets. The concentration of pineapple production in the coastal regions of Ghana is due to their closeness to the only international airport in the country. Besides, unless quantities are large enough to justify chartering planes, the exporters will be dependent on space being available on commercial flights. This can be expensive.

2.4.3 Nature of Commodities and contract farming

One dominant approach to analyzing contract farming emphasizes that the technical characteristics of contract commodities is central in determining production relations in agriculture (Binswanger and Rosenzweig, 1986). On commodity basis, contract-farming schemes tend to be of two types. One type produces traditional tropical commodities, such as sugar, rubber, or oil palm, which tend to be produced at lowest cost on large tracts of land. Contract-farming schemes in such commodities usually involve a large number of growers, tight central control, and provision of numerous services by the central processing unit (for example, irrigation, harvesting, and aerial spraying). There is usually heavy involvement of external donors in these schemes. These large projects, often referred to as outgrower schemes, are particularly common in Indonesia and Malaysia (rubber and oil palm) and in Africa (oil palm, sugar, and tea).

¹⁵ Personal communication with Mr. Kwesi Korboe, MD of Jei River Farms

Another category of produce involved in contract farming is high-value, often export commodities such as asparagus, cucumbers, melons, or strawberries, with the company providing quality control, brand names, and marketing channels. Business-oriented growers, cooperatives, and individual small farmers are involved (ibid). These high value often perishable commodities are needed by processors, exporters or supermarket chains. Their perishable nature also demands that farmers sell off the produce as quickly as possible. Successful links between farmers and agribusiness therefore meets the needs of both parties. For this reason there are suggestions that linkages should be established on the basis of product and not partners (i.e. choose a product and then determine your partner) (World Bank, 2005). Case studies of high value agriculture in Asia (World Bank, 2005) suggest that price guarantees are generally not enforceable, and that schemes fail with disputes of grading and pricing.

In Ghana, crops produced under various forms of contract arrangements include cotton, oil palm, pineapple, and to a lesser extent, mango and citrus. More recently cassava has been grown under the President's Special Initiative, to feed a starch factory. Initiatives by NGOs and other private individuals to link farmers to markets in the northern parts of the country have involved soybean and sorghum. The ADB also financed outgrower schemes in maize but these were not successful because of poor repayment rates.

A common problem associated with outgrower schemes in Ghana is diversion of sponsored produce to alternative markets or buyers. This has happened with pineapple, cotton, cassava under the PSI, and even sorghum and soybean in the very infant schemes in northern Ghana.

2.4.4 Role of Farmer Organisations

Government parastatals, multinational corporations, smaller private companies, individual entrepreneurs and, in some cases, farmer cooperatives all constitute players in contract farming activities. In most instances, the sponsors are also responsible for management of the venture.

Farmer organisations are seen as an instrument for farmers to enhance their market power by providing training and extension, and facilitating acquisition of technology and other inputs. Such an organised body, it is expected can be a channel through which agribusiness might influence practices of individual members to achieve the quality requirements of the former. Experience however shows that for farmer organisations to really play this galvanising role, their capacity to manage business must be built. There is need to inject business practices into the organisations. It is reported that supermarkets prefer not to deal with farmer organisations because they do not deliver on quantity and quality; they do

not invest in their operations to improve services and individual performance and that supermarkets find them difficult to work with (Report by Reardon in World Bank, 2005). A study of farmer organisations in Chile found that over 80% failed due to lack of follow-up investments, coordination problems and poor management among others.

One might say that agribusinesses and farmer organisations have incompatible philosophies. The former are motivated by profits, while the individual members of the latter, particularly if they are smallholders, are motivated by the desire to survive. So the social welfare objectives of farmer organisations often overshadow business related motives.

2.4.5 Conditions for Smallholder participation in coordinated supply chains

Views expressed at a World Bank seminar on this topic cautioned that involvement of smallholders in coordinated supply chains should be limited to perishable commodities with medium/high market requirements in terms of delivery schedules, consistency, volume, safety and quality). Although the logic for this position is not stated one can reason that smallholders' integration into these supply chains is the only means by which smallholders can have market access. Further, low value products usually have fewer barriers to entry into traditional markets that smallholders are familiar with so the chances of diversion with the low value produce are very high.

2.4.6 Role for the public sector

Defining a useful role for government has been an area of debate in the supply chain integration processes. Government interventions that have been proposed are facilitation of the upgrade of existing supply chains, and helping them to innovate. Also an improvement in investment climate is an incentive for agribusiness development which might spill over to benefit other stakeholders in the chain. Measures that reduce transactions costs for both agribusinesses and farmers are crucial. These include market information, and other measures that reduce risks because often, the response to risk contributes to a build up in transactions costs. Information technology is reported to have reduced transactions costs of Indian farmers (World Bank, 2005). Investment in infrastructure and public quality management systems has been found to be crucial in the development of export supply chains in Senegal.

2.4.7 Role for the agribusiness (private sector)

The private sector drives the supply chain and should take the decisions in the management of the chain. For all the cases reviewed and irrespective of the type of contract, success of linkage arrangements has been driven by profitability and effective management of the agribusiness. The most successful ones have invested in research, controlled the production of their planting materials, and have responded to change swiftly. Demonstrated reliability in terms of reliability in service provision and payments by the agribusiness engenders trust in the partner farmers. The presence of asset specificity, especially where the assets are joint investments from both the agribusiness and partner farmers (e.g. processing plant) commits parties to the linkage partnership because economic returns from that asset depend on the success and sustenance of the linkage.

2.4.8 Impact of Smallholder-agribusiness Linkage on Poverty Reduction

In as much as linkages between smallholders and agribusiness to access markets can increase incomes, a number of conditions for entering linkage arrangements suggest that the income benefits may not be widespread. Agribusiness prefer to work with smallholders with resources either labour or land, and sometimes the experience in production of the target commodity. Therefore the resourceful smallholders are the ones that are able to participate in linkage arrangements. As a result some commentators have suggested that contract farming can actually deepen rural inequalities. The benefits of linkage arrangements to poorer smallholders may therefore be limited and if any more indirect.

The high possibility of product diversion with traditional crops, which all poor farmers produce means that agribusinesses are not interested in establishing linkage arrangements with these crops. Yet the same constraints of limited access to inputs, technology and markets apply to these traditional crops. In fact the instability of the spot market prices for the traditional crops is compounded by the oligopolistic practices of traders in rural markets.

The absence of processing plants for many traditional crops in Ghana means that the spot market remains the major avenue for farmers to sell their produce. The challenge is therefore to determine the most beneficial market arrangements for smallholder traditional food crop farmers.

3. FINDINGS OF FIELD WORK

3.1 Types of linkage initiatives in Ghana

In this section, we summarize the types of relations that farmers and their partnerships use to sell or acquire produce and inputs. The majority of farmers access the informal spot market, where they sell produce and buy inputs as and when they desire. This market is very free, measurement is usually by volume and not by weight. Attempts to engage smallholders in more formal market arrangements on a regular basis are few and concentrated mainly in the horticulture sector where processing firms and exporters require smallholder production to create the bulk that they need, and in the oil palm industry where oil palm estates access land and labor through smallholder out-growers. Even in the horticulture industry, commercial exporters prefer to buy produce on the spot rather than engage smallholders on long-term basis. The arrangements that involve true partnerships are few and need to be developed.

As was done for the cases identified in the literature, the field cases are classified as informal contract, market specification contract, production contract and resource providing contracts.

3.1.1 Informal contracts between traders and farmers

The informal arrangements prevail in the food crop sector where traders, through long-term dealings with farmers, supply production credit to farmers and obtain command over some or all of the produce, at prevailing price during harvest time. There are variations in terms of quantity of produce that can be sold under the contract. Some require full control over output financed while others will buy a proportion equivalent to the amount that has been financed. This is the practice adopted by most maize traders in all the markets surveyed. Some traders also use agents to scout for produce, and establish relations with farmers. These relationships are based purely on familiarity and trust between the parties, built over a long period of time. They are established without any facilitation from a third party. This kind of arrangement is also found in cassava marketing. Unfortunately the volume of credit was not estimated in this survey, although farmers in Afram Plains for example acknowledge dependence on traders for financing production (Al-Hassan et al., 19--)

Farmers may also pre-finance traders by allowing them to take produce (beyond what has been pre-financed) on credit. Repayment period is based on the market cycle for the area, e.g. weekly or fortnightly.

3.1.2 Market Specification Contracts

Smallholders and Agro-processors Linkage Facilitated by the Adventist Development and Relief Agency (ADRA)

This linkage involves the soybean, cashew, citrus and mango farmers, agro-processors, and the NGO, ADRA which brings the farmers and processors together. ADRA supplies inputs, mainly seed to farmers, supports extension workers with logistics to deliver services to farmers, and then links the farmers to potential buyers. Farmers and processors negotiate prices at the beginning of each season for a pre-determined fixed price at the time of harvest or delivery. However there are no quantity requirements. Farmers are paid after the processor has accepted the produce as being up to the expected quality standard. The problem is that the quality specification for the produce and its assessment is the prerogative of the processor.

This arrangement is not a production contract because it is the NGO and not the processor that provides farmers with production inputs. ADRA also facilitates farmers' access to technical advice from the public sector extension services and the Trade and Investment Project for a Competitive Export Economy (TIPCEE) for the production of quality produce. ADRA also facilitates the negotiation of prices between buyers/processors and farmers and this helps to build confidence of farmers in their dealings with buyers. Some producer groups have been able to wean themselves off the facilitation of ADRA in the price negotiation.

ADRA has an interest in facilitating farmers' access to markets because that access is linked to repayment of the production loans advanced to farmers. The arrangement is to afford farmers a guaranteed market and farmers are free to sell to alternative buyers.

There is, however, problem with marketing of cashew because of distance and nature of road linking the producing centers, which poses a great challenge to cashew farming. Accessibility to producers for example, poses a problem to the purchasing company Ghana Nuts, located at Techiman in the Brong Ahafo region. As a result, concentration of farms in a locality provides sales advantage to some farmers. Farmers in the transitional areas (Nkoranza, Techiman and Kintampo) have better sales opportunity from their cashew production. They received ₵6,000 per kg of cashew nuts during the 2005 season, while those in the Central and Volta Regions received ₵3,000 per kg during the last season. In the case of soybean, determination of prices by a national soybean committee that meets quarterly to decide on soybean prices among other issues, helps to reduce price variability.

The MoFA Experiment (Cross-cutting linkage based on Multipartite model))

A pilot project to link rice farmers to markets has also been initiated under the auspices of the Regional Directorate of the Ministry of Food and Agriculture (MoFA) in Tamale. A 650 million cedi rice milling plant has been built and a group of women have been trained to process milled rice from local paddy. The concept was for producers of paddy under a previous development project, the Lowland Rice Development Project to supply high quality paddy to the women processors, implying market for paddy producers, and for the processed rice to be sold to various institutions and upper scale milled rice market. The processing plant produces high quality milled parboiled rice. The linkages are weak at the moment because of the high informality of transactions. For example, processors tend to take paddy from farmers on credit and pay back after they have sold their final product; this is a transaction based purely on trust. The potential therefore exist for strengthening these weak linkages. However some basic principles of marketing are being enforced. These include the use of standard measures (weights) in marketing and grading for both paddy and milled rice.

A Farmers' Company Initiative in Food Crops

An integrated linkage between farmers and markets is being established by the Association of Church Development Projects (ACDEP) in northern Ghana. ACDEP has initiated a company, the Savannah Farmers' Marketing Company to complement their support to smallholder producers of sorghum, groundnut and soybean. Farmers are members of groups in the communities that have been working with the Agricultural stations of ACDEP. The marketing company, to be owned by farmers, contracts its farmers to produce the crops and in turn supplies produce on contract to end-users such as Guinness Ghana (for sorghum), Golden Web (for soybean) and Agrimart (for groundnut). Again a network of support services for farmers is established, including public extension services, the Savanna Agriculture Research Institute, the Department of Cooperatives for group development, rural banks for credit, and the Intermediate Technology Transfer Unit (ITTU) and polytechnic for appropriate technology, as well as other NGOs.

The project has two wings: FBOs and the Business wings. ACDEP is working with farmer groups to ensure that desired quality and quantity of production is obtained. The Savanna Farmers Marketing Company which is the business wing serves as a link between the FBOs and the customers. It mobilizes farmers into groups, provides extension services and signs production contracts with farmers, involving volume/quantity and time to deliver produce. It fixes prices and obtains different contracts with farmers and buyers. But both the buyers and farmers are more interested in flexible prices, hence SFMC is adopting flexible price policy. The FBO linkage strengthens the farmers and builds their capacity to manage the cooperative and to receive services delivered to them. The ultimate goal is to make the FBO

own part of the company through a three-tier structure made up of primary, secondary and tertiary groups. The primary grouping is the production group level, while the secondary groups would seek extension services, bulking and storage services for the farmers. The tertiary grouping is to aggregate them into regional structures that will take over the coordinating role now being played by ACDEP.

The program is in its infant stages yet and there are challenges to overcome; the main challenges being with the development of the farmer organizations. At the primary association level, there is lack of understanding of new concept of a farmers' company such as the Savanna Farmers' Company of which they are to be part owners. Farmers are also not interested in establishing long-term relationships for market development. Traditionally, farmers prefer to keep food stocks as their stock of wealth and sell produce as and when they need cash. So even with this intervention, farmers are reluctant to sell all the produce at a go (maybe they are also reluctant to sell produce collectively because of exposing their wealth). For the proposed structure to function well, the primary level groups must be functioning very well, because of cost effectiveness of service delivery and as sources of peer pressure against defaulters but currently it is not working quite well. The next 10 years would be required for a well functioning system (model). There is a long-term vision of having a secured market once production is boosted through current support.

The challenges include the nature of the working with smallholders, who have been working individually and therefore find group activity to be a new experience. Hitherto, group formation has been driven and managed by NGOs who have provided both inputs and capacity building as free services. The groups are formed for the purpose of service delivery but production is on individual basis. Intra-group support and group collusion/cohesion are low. There is need for attitudinal change of the farmers. Contract with farmers regarding time of delivery and volume/quantity were not honored. Other challenges are the poor quality of certified seed (obtained by the program from seed dealers), and limited access of farmers to formal credit.

3.1.3 Resource Providing Contracts

Outgrower Schemes – selected case studies

The most common linkage model in the export fruit sector is the nucleus farmer-outgrower model. In the pineapple industry, it is common for smallholders to produce on contract for processor/export companies. Here we present four case studies representing different commodities and arrangements. The difference between this model and farmers producing for their own cooperative through contract is that in the latter case the cooperative takes responsibility for managing production and marketing. Very few farmer cooperatives in

Ghana have this capacity and it usually requires the intervention of government or a donor agency with significant funding support to get the cooperative to the level required for managing an agribusiness.

Tongu Fruits

Tongu Fruits processes pineapple for export to the European market; initially the source of raw material was from its own farms. Having obtained a preferred supplier status with the Dutch supermarket chain, Ahold, on condition of quantity and regularity of supplies, Tongu Fruits has turned to outgrowers to meet its supply requirements. The company has signed five-year contracts with selected outgrowers. In the first year, the farmers work on the company's plantation. In the second year the growers grow one hectare of pineapple on the company's land and receive other inputs from the company. Farmers are paid net of cost of inputs and all cash advances. However only half of the income is paid to the farmers and the remaining half is held in a savings account in favour of the farmer. Growers can either choose to continue working on the company's land after the five years, or they can choose to become independent growers. Unfortunately there is not information on the mechanisms for coping with risks, such as when profits are less than what farmers would earn on their own fields. However, for this same reason farmers will seldom apply all their labour in such contracts. In this particular case they are doing only a hectare each.

In this relationship, growers are prevented from extra-contractual selling first because they are producing on the company's farm, and because of their financial interest represented by the savings held by the company. The company can recover funds from their savings so farmers do not gain from extra-contractual sales.

Citrus Outgrowers in Akim Oda

Adom Orchards and Agro-products Ltd, located at Akim Oda in the Eastern region is a fruit farm producing citrus and pineapple. The farm, established in 1986, started a citrus outgrower scheme in 1999, in anticipation of the establishment of a processing plant. Criteria for the selection of outgrowers were farmers should have been introduced to the outgrower concept; farmer should have land; and if the farmer was a sharecropper the consent of the landlord was necessary.

Under the scheme the farm provided the farmers with seedling and inputs (fertilizer, fungicides, insecticides) while the farmers were to maintain their farms. There is a written legal agreement with each outgrower. The farm (company) is supposed to purchase the fruits from the farmers at an agreed price. Technical advice is given to the members of outgrower associations. The nucleus farm and the outgrower farms follow similar cropping/cultural practices. Different varieties of citrus that fruit at different times of the year were supplied to

the outgrowers in order to obtain steady production of fruits to feed the proposed factory. The farm has agents in the communities and they hold meetings with the outgrowers monthly to discuss issues concerning their farm operations.

Due to financial constraints the processing factory component is yet to be established. This development is affecting the agreement with the farmers since the sponsor is unable to purchase the produce of the farmers. The company does not buy from farmers to supply other processors because there is no processing plant within the production area. In fact it was reported that a firm was considering establishing a processing plant and the company was hopeful to play that intermediary role. For now, outgrowers sell to other traders and this is affecting the recovery of the loans given to the outgrowers. The farmers have been advised to repay their loans in small installments. The farm sends yearly statement on each farmer's loan accounts to inform him/her about the outstanding balance.

The farm has had no disagreement with the outgrowers. During the development of the outgrowers' fields some of them wanted more seedlings and inputs to cultivate more land, but the company was unable to meet the requests. Even though the company is unable to purchase, there has been no problem, since there is a good market for the fruits where the outgrowers are able to sell. An assessment of the perceptions of the farm manager and two of his field assistants about the trustworthiness of growers revealed that they could not trust farmers to sell fruits to them at an agreed price, had there been a need for farmers to do so.

The Integrated Tamale Fruit Company

The Integrated Tamale Fruit Company (ITFC) came into being in 2000 to produce organic mangoes for export. The company decided to engage outgrowers in its catchment area of the Savelugu-Nanton district of the Northern region. The aim was to create the bulk required for export, while at the same time enhancing incomes of farmers in one of Ghana's poorest regions. The farmers became outgrowers following the ITFC's intervention in the community. The company presented mango as a long-term investment given the climatic conditions and poor yields of arable crops in the area.

Farmers claimed that outgrowers are selected on the basis of their farming experience as well as their level of effort in terms of general farming. The company also lists criteria for selection as demonstrated interest in the project, some experience in mango farming, and willingness to provide the needed labor for the maintenance of the farm. These are evaluated through interviews with farmers, and background checks on farming performance.

The company provides outgrowers with seedlings, manure, fertilizer, tractor services, fungicides, tools and most importantly water. The responsibilities of the outgrowers on the establishment of the farms are:

- Fence the farm to prevent animal destroying the trees

- Commitment fee of 1 bag of maize to ITFC
- Must dig the hole for the planting as the company pegs the farm
- The company brings the water but the farmer has to water the plants and weed around plants

The agreement with ITFC is that from the fifth year when the produce is sold, the company will take 30 percent of value of produce whilst 70 percent goes to the farmers. The 30 percent will cover loan repayments till loans are completely paid out. The conditions of the relations are specified in written legal contract. After loan payments, the issue of whether outgrowers can sell to any bidder has been discussed. The outgrowers believe that whether they sell to the company or others after complete repayment of their loans will depend on the lasting relationship that would be built between the farmers and the ITFC. If it's good, they will still rely on ITFC for the marketing.

Farmers are organized into groups such that they undertake block farming with each member having one acre each. At the initial stages of the scheme, farmers were unwilling to provide labor, and they were also not familiar with the crop. However there has been a steady increase in the number of outgrowers from 175 in 2004 to 600 in 2006. So far ITFC has a high level of trust in the outgrowers' interest in lasting partnership, understanding between the parties, and the capacity of the farmers to produce the quality of produce they desire when closely monitored.

There have been some disagreements between the parties over the pricing, timing of payments and destination of the produce. Farmers expect their fruits to be exported because that is what they were told at the time they were signed in. The company harvested the crop in 2006 using shears. The understanding was that the farmers will be trained as to how to harvest and package. Farmers did not seem to be happy that the fruits were weighed in their absence. The disagreements have however been resolved through discourse with executives of farmer associations.

The outgrowers use their Executive members to reach the management of the company on issues relating to the scheme. The only disagreement so far has been the weight of fruits and their price. There is a misunderstanding between farmers and the company of the hard currency to be generated. The outgrowers understanding was that they will be paid in cedis but that they will be told how much was earned and at what rate the currency was exchanged before payments. Thus the pricing agreement is some how not fixed, but flexible.

The major challenges for farmers is that the fieldwork on the mangoes is labor intensive and tedious, and according to farmers, this has led to some farmers reducing their land area under food crops, while others have stopped food crops farming completely. As to

whether mango cultivation is more remunerative than cultivation of other (food) crops was not assessed, it is believed farmers who have reduced or stopped food crops farming might have done so merely because of the ready market and lump sum cash opportunity that mango project provides. For new entrants, the requirement is a bag of maize and recruitment is usually in the lean season (May-June) hence poorer farmers are unable to meet that requirement. Land is not a problem and labor can be hired at any time provided they can afford to pay.

At the time of the field work, farmers claimed they had not yet benefited from the mango enterprise, because for most of them mango farm has not started bearing, while for few others the harvested fruits are yet to be paid for. Initially each farmer was given 3 bags of fertilizer to apply on their food crops, but this facility has been discontinued.

There is no doubt that the outgrower scheme has provided farmers with the opportunity for investment to yield long-term benefit for farmers. The participation is however limited to smallholders who have access to labour or capital to hire labour. The selection criteria also limit the participation of poorer farmers or farmers who have no access to external capital to pay for initial commitment fee.

The initial disagreements over pricing and timing of payment suggest more education or clarification on the marketing processes. There is also need for greater transparency in assessing quality of fruit in order to win the confidence and trust of the farmers of the marketing process.

Darko Farms Outgrower Experiment in the Poultry Industry

Most broiler farmers did not have market for the birds; hence the uptake of broiler day old chicks produced by Darko Farms was also slow. Darko Farms therefore introduce an outgrower scheme in 2002 to help resolve the problem. The outgrower scheme was a national project with Agricultural Development Bank (ADB), a state owned financial institution, providing the funding. Darko Farms was the nucleus farmer and it was expected to feed its processing plant with the outputs of the outgrowers. Other major farms such as Topman Farms Ltd and Asamoah & Yamoah Farms Ltd were given hatchery roles by ADB, where they were supplied with eggs to hatch and then supply to a given number of farmers at a predetermined price. Agricare Ltd, a feed company was to supply feed to the participating farms.

Farmers were contacted to participate in the program and they were supplied with day-old-chicks and feed. The birds were to be lifted after eight weeks and farmers paid a price net of cost of inputs supplied by Darko Farms. The criteria for selection were good road access to the farm, good housing and feeding facilities. Although a lot of farmers expressed interest in the outgrower scheme, initial results were poor. Although in discussions with some

of the farmers, the problem had to do with the quality of feed supplied, which slowed the growth rate of birds, in our assessment, the problem had to do with lack of monitoring. There were diversions of inputs supplied. Others also diverted the birds to parallel markets, thereby avoiding recovery of input cost by the contractor. Darko farms lost about ₦1.3 billion as a result and had to resort to court action to retrieve its investment. At the time of the interview some participants were still owing about ₦500 million. Some farmers, however, did quite well.

In 2004 Agricultural Development Bank (ADB) showed renewed interest in the broilers scheme and therefore came in with a program to support farmers who could house at least 5000 birds. ADB supported participants with feeds produced by Darko Farms, bought day-old-chicks for farmers and supported the rehabilitation of Darko Farms' processing plant. There was a formal agreement between Darko Farms and its outgrowers on price, payment period, delivery date, quantity required per period at certain weight and quality, logistics (type of feed meal to use) and skills of labor on farms. The farmers were required to feed birds with soybean cake and not palm kernel cake or fish meal. To ensure compliance (enforcement) Darko farms would go round all the farmers to inspect feeds of farmers. Palatability test was proposed to ensure that farmers produced to the required taste, when soybean cake was used. Producer prices were agreed upon before the farmers went into production, but the price paid was flexible upwards if production costs turned out to be higher than expected.

The new program also faced a number of problems. Frequent fluctuation in power supply (electricity) resulted in break down of the processing plant of Darko Farms. Most participants lost birds as a result since the major buyer could not honor purchase agreement. In the absence of a processing plant, Darko Farms did not have sufficient storage capacity and had to hire storage facilities somewhere.

Increasing the demand for locally produced chicken and supplying quality produce at affordable prices are two major challenges facing the poultry producers. Consumers need to be educated on the need to consume poultry meat not only around Christmas and Easter, but all year round. Competition from the imports can be reduced if the perception of high cost is it only perception ? of local chicken among consumers will change. It is a perception because the imported frozen chicken, stored over several months is not of same quality as the fresh local product.

3.2 Facilitation of Linkage Arrangements

The case field case studies reveal that some of the linkage arrangements are not spontaneously established but rather are initiated and facilitated by a public agency or an

NGO. The facilitation is particularly relevant for developing and growing the linkage arrangements and is justified for public expenditure.

The Ministry of Food and Agriculture has intervened with processing facilities (rice in Tamale and cassava in Salaga) to expand markets for farmers. In the case of rice, interventions for building capacity of farmer groups (e.g. the Northern Region Lowland Rice Farmers Association) through training, provision of market information and a credit guarantee fund, have effectively linked smallholders to input and formal credit markets.

Non-Governmental Organisations (NGO) are also actively engaged in facilitating smallholder access to markets, by providing wide range of services. SEND Foundation is facilitating market access by soybean farmers in the East Gonja District of the Northern region by providing market information, credit, storage infrastructure, and nutrition education for farmers. The NGO has animated farmers into cooperatives and linked them with the Department of Cooperatives for capacity building in group management/governance. Farmers, through their cooperative leaders, are undertaking their own market surveys to find who the buyers are, where they are located and how they want the product (e.g. packaging). Market for soybean is also being expanded locally through the introduction of new products by SEND as part of their nutrition education. Hitherto, farmers were selling their produce in the Konkomba market in Accra through friends and relations. The disadvantage of this strategy is that farmers tend to lose control over the price and therefore income because of the distance between them and the sellers. SEND's intervention is therefore to give farmers more control over the marketing of the produce.

SEND has initiated the Market Access Information Project on a pilot basis, to provide market information to farmers. SEND collects market information from MoFA offices at selected market centres, processes the information and transmits it to Salaga and Kpandai. The information is then disseminated by the Cooperative information officers to farmers verbally. It is planned to disseminate information through Community Notice Boards. The information officers also pick produce availability information from farmers to the central office in Tamale, which then relays the information to buyers. The information is on all staple food crops and is delivered weekly. SEND is therefore supporting the dissemination of market information collected by MoFA. Presently MoFA disseminates its information on radio and in the print media. SEND's effort is complementary to what MoFA is doing, because farmers and traders may not have access to the radio and print media. More importantly farmers use the price information as a basis for bargaining with traders.

The cooperatives are linked to the community Credit Union, where they save as a condition for accessing credit. SEND Foundation has also channelled a revolving fund through the credit union. SEND's credit to farmers is in-kind and at interest rate of 3 percent

per month or 19.5 percent per annum. The farmers repay for the input credit through the credit union after sales of their produce.

The main constraints in the workings of the SEND initiative are poor access to production areas and lack of storage for assembly of produce. SEND does not take responsibility for assembling produce, but has arranged access to temporary storage space for farmers. Produce is often locked up due to poor access and the lack of storage limits the extent to which farmers are able to expand scale to satisfy large buyers. Competition from imported soybean cake is another challenge to surmount. The buyers do not have good capital base and therefore prefer to purchase on credit, which is not possible due to previous experiences with some buyers. This causes unnecessary delays in the sales of produce when sales on credit is turned down, magnifying the storage problems. There is generally a lack of commitment from buyers, and therefore farmers have little trust in them.

Farmapine Ghana Ltd is an example of an integrated farmer-market relation that was initiated and facilitated to maturity. The company was established under a World Bank facility in the pineapple sector to produce and export pineapple. Farmapine was a result of a merger between five small scale producer cooperatives (owning 80% of shares) and two private medium-scale exporting companies sharing the remaining 20% of share equally. The cooperative received training on marketing, fertiliser and pesticide application, crop husbandry and quality control from Technoserve, an NGO, while the department of Cooperatives supported the development of the farmer groups.

Farmapine trains member producers, through a quality agreement, to enable them produce quality fruit. It has also obtained EurepGAP certification for its members and its pack-house. Farmapine has also appointed a quality surveyor at the European ports of destination to monitor produce quality of produce on arrival. The company is also training its farmers in the area of business management and governance, and is instilling an understanding of the challenges of competing on the international market.

Although initially a success story, in terms of increases in export volumes, there have been setbacks due to management problems of the agribusiness, exacerbated by market constraints, delays in obtaining quality exportable pineapple, lack of land, debt burden from original loan, and cash flow limitations. Changing market demand, changing production techniques and widening of membership of cooperatives have presented new challenges to the company. The company seems to have survived with major changes including change in management, debt restructuring, and a curtailment of producer membership.

The experience of Farmapine illustrates the long gestation period required to engage smallholders in formal market relations. This is largely due to the lack of understanding of a new production relationship and also objectives that may run contrary to those of the

production-marketing partnership with the smallholders. These are the teething problems that the Savanna Farmers Company is also facing.

Another facilitated market link is that involving Sasakawa Africa Association, the World Bank and the FBO Development Fund of the Ministry of Food and Agriculture. They have assisted three farmer based organizations (FBOs) to set up one-stop farmer service centers. Each FBO chooses a cash crop of interest to its members. The organization has a warehouse to store the crop after harvest and organize marketing on behalf of members. Inputs are equally procured in a similar manner on behalf of members. There are 3 pilot sites (2 in Northern region and 1 in Upper West region). Currently the FBOs are funded by the FBO fund of MOFA.

3.3 Reasons for existing linkages

A number of reasons can be identified from all of the above farmer-market linkage arrangements. In the case of farmers the reasons include improving smallholder productivity through better access to credit and inputs, training and technical information, and access to reliable demand source for final product. For agribusiness and traders, it is the need to expand bulk, obtain reliable supplies of raw materials either to meet a dedicated import demand or to feed a processing facility. In the case of the fruit crops, linkage with small producers relieves firms of land constraint and improves their access to labour as in the case of Tongu Fruits. Linkages have also been facilitated by NGOs as a result of a new wave of a shift from welfare functions to developing the entrepreneurial or business skills of smallholders. So that links to markets have not only become part of the process of the business skills development but also a necessary condition for the facilitating NGO to recoup its investment. Finally public sector promotion of linkages hinges on the need to find markets for farmers' produce (e.g. the rice processing centre in Tamale) or to develop their capacity to access services. Smallholders tend to be disorganised compared to traders, when it comes to marketing their produce.

3.4 Types of commodities affected

Although the linkage arrangements are most common in the horticulture sector, new initiatives especially those involving farmers in Northern Ghana are being centred on staples including legumes (soybean and groundnut), rice and sorghum. There is some interest on cotton as well because this crop is seen as the cash crop for northern Ghana. Soybean is being promoted as part of nutrition education for farmers being supported by SEND Foundation. But soybean as a cash crop does provide economic incentives to the farmers. However, in general, tree crops are seen as sustainable sources of income in the long term (perception of

ADRA and ITFC). It is also the perception that farmers are more familiar with the food crop markets and therefore do not need assistance in that area. The existence of informal markets for the staple crops also increases the chances of farmers diverting their produce when sponsored to produce them.

The poultry experiment of Darko Farms demonstrates interest in livestock sector. GTZ is also supporting the improvement in productivity of small ruminants and guinea fowl for northern farmers. Traditionally, these are part of capital stock of farmers but their role in enhancing incomes is limited by their low productivity.

Although the literature suggests that in the case of contract farming success is more likely with high value produce such as fruits and vegetables, and meat products, the success or failure of the cases we have examined seems to be determined more by the way the linkage is managed than by the nature of the product. For example, extra contractual sales have been a problem in the pineapple sector for most exporters (per discussion, HAG executive); yet some major exporters (e.g. Tongu Fruits, and Prudent Farms) are relying more and more on outgrowers as their supply sources. In fact Jei River Farm which has always exported their own fruits, now plans to engage outgrowers to produce pineapple.

3.5 Roles of stakeholders

In this section we try to analyse the roles being played by various stakeholders in linking farmers to markets. The uniqueness of each of the cases presented informs us of the varied roles that stakeholders can play within specific contexts. The roles may be appropriate or not, and may be effective or not.

Farmers/Producer Organisations

Farmer organisations have been used as channels for delivering services to smallholders, and for negotiations on behalf of their members. Presently, Ghana has weak farmer organisations, and their formation is almost always instigated by an outsider for some project or the other, with the result that the organisation often dissipates after the project closes. In other words, the activities of farmer organisations are often linked to project support and once that support is no longer available, members also lose interest.

There are various indigenous organisations initiated by rural people themselves that have operated over long periods. These include Church groups, savings and credit clubs, and labour gangs among others. The social welfare or protection of members is often an overriding objective of these organisations. Unfortunately the potential of these groups have not been extended into the productive sector, particularly for accessing services.

In the case studies presented, we identify farmer organisations at different levels of development in terms of their ability to access services. At the lowest level are the ITFC's mango outgrower groups. The groups were formed to facilitate consolidation of mango farms through block farming arrangements, and to enable the ITFC deliver services to the groups en bloc. Besides, according to the farmers, IFTC has a policy of negotiating only with the leaders of the farmer groups and not with individual farmers. So far there is no indication that the groups are independently searching for new roles for themselves. They are very much unaware of their importance to the conduct of mango export supply chain. For instance, the certification of their individual produce for the organic mango market is made possible because of their membership in group. Consolidation of farm plots facilitates traceability. So when the farmers suggest that they may discontinue their relation with ITFC after they have cleared their indebtedness to the company, they probably do not realise that by severing relations with the company they will lose access to the export market unless they are able to build their capacity to acquire certification themselves and export their own produce, or find another buyer to play the role of ITFC. The former is unlikely while the latter would be a risky move.

It is clear that the mango outgrower groups need further capacity building in terms of further education on the conduct of supply chain they are involved in. While it could be in the interest of ITFC to provide this education, in this early stage of development of the supply chain, the company is likely to be more concerned about technical aspects of production. It would seem therefore that education on the conduct and requirements of the export supply chain is a function the public sector can legitimately perform, though it would be in the interest of the private sector to do so.

ADRA's farmer groups were formed on the unity is strength principle, and also to facilitate service delivery by the NGO to farmers. Unlike mango outgrower groups of ITFC, ADRA's groups are being supported to access domestic markets. They are not tied to a particular buyer, so some of the farmer groups are able to negotiate prices with buyers without the support of ADRA. Farmers within the groups that have grabbed the opportunity to become intermediaries for exporters, and have succeeded in pulling the individual members into the export supply chain.

However, the success of the farmers in sustaining their participation in the export supply chain will require similar training as indicated for the ITFC mango outgrowers. Sustainability of the group activities will also depend on their ability to access the backward production linkage services themselves without ADRA. For now the NGO provides credit in kind, and links farmers up with the public extension services for technical information.

Groups were also formed by Adom Orchards for citrus farming, mainly for the provision of technical services. Although the company has not been able to purchase fruits

from the farmers, it claims it is still committed to providing these services because of the indebtedness of farmers to the company. Besides there is hope that the processing plant will eventually be built and outgrowers will be needed. For now, the groups are only recipients of services and are not active in any aspect of the management of the citrus supply chain.

The Northern Region Intensive Lowland Rice Farmers' Cooperative Union has advanced in terms of their ability to access production services. With a development fund of 100 million cedis, they are able to access funds from the ADB, identify sources of input supply and negotiate with input dealers for the best prices. They have also become preferred customers of input dealers because their level of organisation has lowered transactions costs for suppliers in many respects including bulk deliveries and reliability of repayments through the banks.

However the cooperatives are still handicapped in terms of accessing produce markets. The rice processing plant was to have completed that link for farmers. However, the women processors seem to be handicapped in their access to working capital. They are unable to stockpile paddy and often pay for paddy after they have processed and sold milled rice. The women seem to have no problem in selling their quality milled rice. A working capital facility similar to what has been established for farmers would enhance the utilisation of the rice milling facility and strengthen the forward linkage of paddy cooperative farmers to the supply chain. These internal difficulties of enterprises are highlighted because in assessing market access in the wider context, a weak linkage can be created if one party is constrained by internal difficulties in their enterprise.

The capacity of the women in managing the mill should also be enhanced. For now, they only use the mill to supplement their other productive activities, which includes rice processing. Their commitment in the processing plant is low because they do not see it as their own. Although a group of ten women have been given access to the work in the mill, they process individually and in probably in turns. So the benefits of collective action are limited in this case. Although the existence of a fixed asset such as the rice mill is supposed to increase commitment of parties to the value chain, in this case, only one party (the women processors) is entitled to the mill; the women do not own the asset and therefore do not link their effective use of the facility to its profitability and therefore long-term viability. There should be a re-orientation of the process for them to understand the principle for the establishment of the facility and their association with it.

The farmer groups of the Savannah Farmers' Company are still in an embryonic phase and are therefore not playing any active role in terms of accessing services themselves. They are being supported to participate in formal markets for their produce. The slowness of the groups in responding to the new market opportunities illustrates the challenges of integrating poor farmers into formal markets. The strategies of poor farmers are usually

dominated by risk aversion objectives; they are therefore more likely to prefer working in informal markets which they are familiar with, than with formal markets over which they may have little control. Formal markets are characterised by formal contract relations. The preference of farmers to keep their stocks may not be to show their wealth but rather to give them control over their sales, and in such a way that they are able to match sales with cash needs. Although bulk payments offered by formal markets are attractive, farmers who do not have means of cushioning themselves until the bulk payment is received may not find participating in formal markets desirable. The liquidation of assets (produce) in a one time transaction can also present cash flow management problems to poor farmers. Adaptation of the interventions to allow sales of some proportion of stocks to be formalised may be desirable.

Farmapine is an example of a fully integrated farmers' cooperative supporting its members to produce and market. The farmers' company is accessing inputs and services, including EurepGAP certification for its members. Whatever success they have chalked has not come easy. First, there has been significant investment in the groups in terms of start-up capital, technical training and development of management skills. The gestation period has been long and lessons have been learnt allowing for re-structuring to overcome their problems. Yet, as noted earlier, the need for continuous education of members on the conduct and challenges of export market supply chains remains.

There are lessons here for public sector and development agency interventions in developing farmer associations. First, the process cannot be rushed, and secondly an integrated approach to delivering comprehensive set of support is necessary. Secondly, the activities of the FBO development fund should not be limited to development of new groups. Groups that are already linked in well-functioning and lucrative supply chain systems should be identified and their capacities further enhanced, for them to understand and respond to changing market dynamics. Presently the demands of external markets are dominated by quality standards which farmers are unfamiliar with. The importance of meeting these standards (through good agricultural practices) to their continued participation in supply chain can be brought to them through training and information sharing. As has been noted in the literature, accessing markets is one thing, and keeping them is another. The latter requires innovation and rapid response to market dynamics on a continued basis.

Role of Agribusinesses

In all the case studies presented, agribusiness firms have played the role of providing inputs and credit, technical services, and avenues for smallholders to market produce. In some cases, they have also provided the infrastructure e.g. pack house, for producers. The certification of smallholders' produce for EurepGAP standards by ITFC, Tongu Fruits, and

Blue Skies (REF) are examples of high level support to smallholders by agribusinesses. However whether the cost of certification is shared with smallholders and how, are not known.

The process of engaging smallholders in international markets can be challenging as the introduction of the MD2 variety of pineapple has revealed. The technical requirements of the variety are so demanding that many small farmers of pineapple have been forced out of the industry¹⁶. Smallholders need additional training to be able produce pineapple of the quality the market desires. The view has been expressed that such training can be provided by commercial farmers as on-the-job-training and be remunerated by the public sector as part of the agricultural development budget. This is very consistent with the new extension policy of pluralism of service providers. That this is not already happening in spite of the existence of the policy suggests that policy implementers are unaware of the developmental needs of the pineapple supply chain, and probably the high value supply chains in general.

Agribusinesses are also in a better position to experiment with new products for the country's export diversification. In the past, export diversification was promoted through a project that aimed to improve infrastructure in areas producing non-traditional export crops among other types of support. The new paradigm of private sector led growth could be pursued with commercial farmers being encouraged through a development fund, to identify, and experiment with products that have the potential for diversification. Of course such engagements will have to be guided by performance criteria and contract.

Agribusinesses also need to improve transparency in their dealings with farmers. The misunderstandings between ITFC and its farmers over pricing, and timing of payments are not uncommon in other high-value export supply chains. Another area of transparency is in the assessment of quality of produce. Smallholders do not seem to know the criteria used to assess quality (Opoku-Mensah, 2006, Draft Thesis).

Government or Development Agency

The traditional roles expected of governments include the provision of public goods such as roads, communication, water and other public infrastructure; the setting and enforcement of standards, and regulation; research and provision of extension services, and market information. Government is providing although to limited degrees of success all these.

While the availability of all these services are crucial in linking smallholders to markets, there are still grey areas about the extent to which some services or infrastructure should be provided for the private good. Also, while the regulatory and enforcement roles are non-controversial, some may question the provision of infrastructure and other services for

¹⁶ Personal communication with Kwesi Korboe, Managing Director, Jei River Farms

private benefit. Indeed the policies of cost-recovery in extension and research are as much a result of concerns for fiscal discipline as they are for concerns for fine-tuning the definition of public goods. For example should the cost of irrigation infrastructure on farms, or should cost of accessing market information for particular groups, be covered by public funds?

In the case of Ghana where government's overriding development objective is poverty reduction, infrastructure and services to enhance the participation of the poor in markets, are seen as a necessary condition for growth, poverty reduction, and development. The problem arises when that infrastructure is shared with agribusinesses. The role of the public sector in facilitating agribusiness training of smallholders has been mentioned above. In particular, government can support agribusinesses and NGOs who are actively engaged in capacity building of smallholders. The NGOs in particular should be given access to the FBO development fund, Export Development and Investment Fund (EDIF), with flexible access criteria and specific performance indicators and conditions.

In the case of accessing high value markets, the issue of certification of smallholders has been problematic. In this respect, government and her development partners, mainly USAID through TIPCEE, and the German government through GTZ, are developing Ghanaian Standards to be equivalent to the private standards such as EurepGAP, to reduce the costs of certification. This can complement efforts being made to certify smallholders through their agribusiness links. Both TIPCEE and GTZ are directly involved in facilitating smallholder engagement in supply chains of high value and staple crops. TIPCEE's strategy is to improve the productivity of smallholders, while GTZ focuses on getting the farmers to organise themselves better.

A thorny issue in the links with agribusiness is the rate of contract renegeing by parties. Smallholders divert crops sponsored by agribusiness; agribusiness delay payments and may alter contracted prices without prior information to producers. Even where written contracts have been signed, they have been breached. It is only in the case of the Darko Farms outgrower scheme that the farm decided to go to court to recoup its investment. This was with limited success.

Many agribusinesses will not resolve disagreements with smallholders in court because apart from the costs involved being probably much larger than the amounts to be recouped, it sours relations and blocks any avenues for accessing the resources of smallholders. In the case of smallholders, they may be disadvantaged in terms of being the weaker party in the partnership; some may have no knowledge of how to seek redress while the problem of souring relations and losing out on future opportunities can also restrain them in taking court action.

In our field work we learnt of written contracts in the horticulture industry, and the poultry sector. These contracts are prepared by the sponsor for the smallholder to append their

signature. While the sponsor holds the document in high regard, it is unclear whether the smallholder is aware of the implications of their signature. Education on legal issues is important especially for the smallholder. It is suggested in the literature that governments could develop standardised contracts for smallholder agribusiness linkages and then take a responsibility in enforcing the contracts.

Non-Governmental Organisations

NGOs have traditionally targeted poor areas for their activities and Ghana is no exception in this respect. Six NGOs were covered during the field work and all pursued market access and business development activities, and are actively engaged in the development of smallholder groups and supply chains. This is a shift from the usual welfare focus of NGOs to growth objectives, and is consistent with the now undisputed fact that growth is necessary for poverty reduction. Their focus on poor areas and the poor provide the targeting that is also required to ensure that the benefits of growth are distributed well.

The market access activities of NGOs are of an intermediation nature. In the survey the activities included provision of market information, linking producers to buyers, building the negotiation skills of smallholders, providing access to vital inputs such as improved seed, and providing technical information. They tend to complement public sector extension services by providing critical logistic support in addition to their own field staff; this enables frontline staff to reach farmers in quite remote areas. Their focus on the poor and usually on poor access areas however limits the scope of their activities. Provided they make the necessary impact, investment of public funds in these activities can be justified.

4. CONCLUSIONS

The first aspect of the market linkage framework relates to **who are involved** in the linkages. In the case of informal contracts, there are just two parties, the producer and the buyer. In the market specification contract cases, where the linkage has developed spontaneously (i.e. without the prompting of a third party), the parties are also the farmers and the buyers. In resource providing contracts, input suppliers and financial institutions also partner the producers and buyers. In both market specification and resource providing contracts, we have seen interventions by public sector agencies, NGOs and other development agencies initiating and supporting market linkage arrangements between producers and buyers, and various service providers.

Three different types of market linkage relations (**how market relation are executed**) have been identified from the Ghana case studies. These are the informal relations with only verbal or no written contracts, formal production contracts, and a limited vertically integrated production system. The cases of formal contracts fell under market specification or resource providing contracts (**what is in the contract**). There were no relations of production management contracts from the case studies.

Market specification contracts specify the price, quantity, quality and time of delivery of the produce. For completeness, mode of delivery of produce, and timing of payment to the producer should also be specified. In the case of resource providing contracts, the commitments of the sponsor (agribusiness) to the producer also has to be specified.

Table 1 summarises the extent to which the contract specification requirements were reflected in the case studies. Price of produce at the time of delivery, mode of payment, and timing are always specified but not always honoured. In the case of resource providing contracts involving tree crops (e.g. Mango), the price for the first harvest can be uncertain. The contracts are not too firm on quantities to be delivered. Although quality is an issue in the two formal contracts, its determination and assessment is always the prerogative of the buyer while the producer bears the full risk for rejects. In resource providing contracts, because payment to producer is tied up with the input supply costs, the sponsor almost always recovers their costs except in total crop failure. How contract are enforced is least understood in these linkage arrangements. For resource providing contracts, or even informal arrangements involving credit from traders to farmers, the interlocking of payment to producers with the cost of inputs is complemented with monitoring but the latter is not always effective.

Although each linkage relation has its advantages, the weaknesses in terms of the practice are much more. These weaknesses suggest the areas that need to be strengthened, either by policy or support systems to make the market arrangements work better. This is where the roles of public agencies and civil society organisations in facilitation of market linkage arrangements become evident. In addition to helping to improve the governance systems of the arrangements, the facilitators can also help in providing public goods such as educating farmers on the needs of markets, building the capacity of farmer organisations to conduct business transactions, and supporting parties to draft good contracts.

Table 1: Summary of Content of Contracts by Type of Market Relation

Contract specification (What is in the linkage)	Market relation (How linkages are executed)		
	Informal contracts	Market specification	Resource providing
Price and terms of payment	Yes. Prevailing spot market price	Yes	Yes, but can be uncertain for the first harvest. Farmers prefer flexible prices to fixed (i.e. determine price at time of delivery)
Quantity to be delivered	Yes. Usually linked to indebtedness of farmer to trader	No	Not in all cases. For example Darko farms specified but Adom Orchards did not specify
Quality of produce	No	Yes Buyer determines if quality is satisfactory	Yes but Sponsor determines standard for quality and tests for it
Conditions of acceptance/non-acceptance	None	Farmer bears full risk of reject	Farmer bears full risk of reject
Responsibilities for non-performance	Not evident	Not evident	Commitment of sponsor in terms of resource inputs to be provided are stated
Contract enforcement measures	Not evident	Not evident	Payments to producers tied to credit; production on land of sponsor, monitoring but this was weak in some cases

Table 2: Strengths and Weaknesses of Market Relations

Market relation	Strengths	Weaknesses
Informal contracts	1. There is flexibility and parties can easily move out	1. No written agreements therefore commitment from both sides likely to be low 2. High risk of contract reneging 3. Where alternative markets exist for the commodity, farmers tend to abscond and sell outside the agreement 4. Relations is usually based on trust and takes long to develop between parties 5. In the staple crop trade where farmers depend on traders for credit, farmers are likely to develop a dependency relationship to develop
Market Specification contract	1. Price certainty 2. Price negotiation means that both parties are likely to be satisfied with price 3. Introduction of standard weight measures and grading is an improvement over spot market practices.	1. Only the buyer determines the quality of the produce 2. Buyer can use quality to re-negotiate price 3. Contracts are short-term (seasonal) therefore there is limited chance of developing a long-term dedicated relation between parties 4. High level of produce diversion 5. Where there are no written contracts, transactions are based on trust, which may take long time to develop
Resource providing contracts	1. Long-term contracts – 5 years for two different sponsors	1. Coordination costs to the agribusiness can be high (e.g. costs of input distribution, field staff for monitoring). 2. Monitoring systems therefore weak 3. Where alternative markets exist, produce and sometimes input diversion 4. Little transparency in pricing and timing of payment in some cases 5. Sharing of risk is disproportionately against the producer

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