

Working Paper 139

**Equity and Efficiency in Contract Farming Schemes:
The Experience of Agricultural tree Crops**

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1. Introduction

This paper reviews the experience of contract farming and outgrower schemes for five agricultural tree crops: cocoa, rubber, palm oil, coffee and tea. The primary objective of the paper is to draw lessons from this experience to inform similar schemes with tree crops. The paper asks two main questions: how does contract farming work and who benefits? The answers to these questions are based on a twenty-day review of the literature. They are therefore necessarily partial and intended to form the basis for further research.

- Section 2 starts by reviewing different types of contracts and clarifying some definitional issues. Contract farming schemes are varied involving different actors, land tenure systems and time scales. The literature on contract farming will then be reviewed, identifying different disciplinary angles and some common patterns of approach to contract farming.
- Section 3 considers the origins of contract farming and the constitution of the contract. In this section the objectives of the different actors in a contract will be considered: the public and private sectors, the international development community, and smallholders. The constitution of the contract and common areas of conflict which emerge between these actors will then be examined. Section 3 ends with a consideration of the comparative advantage of the public and private sector in contract farming schemes.
- Section 4 explores the influence of crop characteristics in determining the effectiveness and suitability of production under contract. It isolates some of the factors that ensure not only the suitability of crops for contract farming, but also the likelihood that farmers will receive adequate benefits. Section 4 ends with a consideration of the effectiveness of contract farming for transferring technology to farmers.
- Section 5 considers the financial and economic viability of contract farming schemes. It explores the main sources of capital investment for contract farming and the relative involvement of the public and private sector in finance. It considers the market for typical commodities grown under contract and how the actors involved react to market fluctuations. The section continues to explore common systems for establishing a price and the relative effectiveness of these for distributing risk between the producer and the contractor.
- Section 6 concentrates on the effectiveness of contract farming as a tool for rural development. To this end it explores the welfare effect of contract farming on the producers under contract and the level of economic differentiation amongst contracted farmers. It also considers whether contract farming is suitable for small farmers. Section 6 goes on to explore the effect of contract farming on regional development and those not included in the contract. It considers the possible effects of employment generation, the displacement of food cultivation, and backward and forward linkages of related industries. Finally, Section 6 examines the record of contract farming for empowering farmers both as individuals and through encouraging collective action for better conditions.
- Section 7 reviews some national policies towards contract farming schemes and the evidence from contract farming case studies. Kenya, the Ivory Coast, Ghana, Thailand and Malaysia will be examined. The countries were selected to include experience from Africa and Asia. The case studies were selected because they are fairly well known and there is an abundance of material

on them. This enabled a triangulation of the evidence and therefore the construction of what is hoped, is a fairly unbiased view of the projects. However the reader might bear in mind that all the case studies represent various degrees of success. They are therefore not able to throw much light on the reasons that projects fail.

- Section 8 is a brief summary of the evidence on contract farming and agricultural tree crops. Some tentative conclusions about the relevance of the study for contract farming tree crops are proposed and consideration is given to areas which merit further enquiry.

2. Definitions and an overview of the literature on contract farming

2.1 Contract farming and outgrower schemes: Definitions

Contract farming refers to a system where a central processing or exporting unit purchases the harvests of independent farmers and the terms of the purchase are arranged in advance through contracts. 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 credit inputs and technical advice. Contracting is fundamentally a way of allocating risk between producer and contractor; the former takes the risk of production and the latter the risk of marketing. In practice, there is considerable interdependence between the two parties, the nature of which is subject to much debate as the review of the literature and the case studies will explore. The allocation of risk is specified in the contract which can vary widely; some agree to trade a certain volume of production; in others the contract specifies price (which can be market price; average price over a period of time, difference between a basic price and market price etc.) but not amount.

2.2 Typical contracts

- Market specification contracts: future purchase agreements which determine quantity, timing and price of commodities to be sold.
- Resource-providing contracts: specify the sorts of crops to be cultivated, some production practices and the quality and standardisation of the crop through the provision of technical packages and credits.
- Production management contracts: associated with large outgrower and nucleus-estate schemes, directly shape and regulate the production and labour processes of the grower.

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. The main distinction is between arrangements which only affect smallholder access to inputs and to processing facilities and markets, and those that provide them also with developed land under varying degrees of control. The crucial potential problem for contracting smallholders, whatever the contracting arrangement, lies in the division of value added between themselves and the contractor. This is usually not a reflection of real value added but of relative strengths. The only thing that binds all contract schemes together as an analytical category, is the contract. However, it is important to bear in mind that the ‘contract is a representation of a relationship rather than the relationship itself, and the divergence between the two may be crucial. Its implementation takes place in specific social and political contexts’ (White, 1997).

The definition of contract farming is often confused because there are so many different types of contracts and actors (private sector firms, public sector firms and parastatals, international aid agencies). The definitions suggested by Ellman (1986) and Glover and Kusterer (1990), provide an insight into the types of schemes which exist under the label ‘contract farming’.

- *Outgrower schemes*: Schemes that provide production and marketing services to farmers on their own land. For Glover and Kusterer (1990), these generally connote a government scheme with a public enterprise, purchasing crops from farmers, either on its own or as a joint venture with a private firm. Glover and Kusterer (1990) also use the term contract farming to refer to the same arrangement in the private sector.

- *Nucleus Estate-Outgrower Schemes*: A core estate and factory is established and farmers in the surrounding area grow crops on part of their own land, which they sell to the factory for processing.
- *Multipartite Arrangements*: A term often used in the literature to emphasise the participation of several actors.

The variable definitions used in the literature make it difficult to establish a rigid categorisation of these terms. This review will use the terms contract farming and outgrower schemes interchangeably. Where necessary, it will be specified which sectors are involved in the scheme and whether or not there is a nucleus estate involved. A smallholder is a producer who relies primarily on family labour.

2.3 The literature on contract farming: An overview

The literature on contract farming as a tool for development is scattered through different disciplines. Many of the studies differ not only in ideological perspective and disciplinary focus, but are carried out independently of each other with little cross-referencing of experience. There is an agronomic literature on smallholder strategies in growing export crops and the relative efficiency of smallholders and plantations (Netting, 1993; Beets, 1990 and Ruthenberg, 1980). One dominant approach to contract farming, which lies halfway between natural and social sciences, emphasises the technical characteristics of contract commodities as central in determining production relations in agriculture (Binswanger and Rosenzweig, 1986). This commodity-based approach classifies schemes according to whether they produce ‘classical’ export crops (tea, oil palm, sugar), horticulture or staples. The argument is that each contracted commodity is associated with specific conditions of production and labour regimes, which affect its potential for generating local development. Commodity specific limits pose both organisational limitations and opportunities which will determine whether they are better grown in outgrower schemes with centralised processing units; or decentralised outgrower schemes etc. Under this school of thought, the success of different trees in outgrower arrangements is primarily determined by their properties and outputs. Technical constraints are doubtlessly an important factor, but there are some apparent problems with this approach, which will be returned to later.

There are a number of books and articles, which have examined outgrower schemes from individual project perspectives. The Mumias sugar project in Kenya and the Kenyan Tea Development Authority have been extensively researched (Glover and Kusterer 1990). The findings of an IDRC study of contract farming in Africa were published in the *Eastern African Economic Review* in August 1989. This study focused on eastern and southern Africa and has provided some of the most detailed information available on grower incomes and returns, marketing and production costs. The review of the Commonwealth Development Corporations smallholder schemes written by Ellman (1986) reviews CDC experience. The review is especially useful because of the role CDC has played in promoting smallholder schemes as part of a development strategy. Finally some work commissioned by IFPRI has examined the effects of contract farming on food production and security (Kennedy and Cogill, 1987).

This review will draw both on these case studies and on the literature, which examines contract farming from a broader developmental perspective. Much of the development literature on contract farming is polarised. One theoretical part examines contract farming in terms of an agrarian transition. The central question is whether it is possible for the path of agrarian transition and modernisation to be based not on large wage-labour based capitalist farms but on small farm units linked to capitalist enterprises (White, 1997). The other, more policy oriented part of the literature has focused on policies and strategies for promoting the development of agro-production. This

literature has grown in the last ten years with the phenomenon of agri-businesses in LDCs. At polarised extremes of this literature, are the Harvard Business School approach and the Food First Approach. The former considers contract farming to be an opportunity for the transfer of technology to the smallholder and a means through which they can enter the market with minimal risk. In this sense, contract farming complements current paradigms that advocate free trade, private sector growth and smallholder efficiency. The Food First school (Lappe and Collins, 1977) is highly critical of contract farming, and considers it in a dependency theory framework as an exploitative extension of international capital. The Harvard Business School approach is driven by a contrasting ideology and does not consider grower welfare or the sociological and political aspects of the grower-firm relationship. The Food First approach relies heavily on secondary, journalistic and anecdotal sources of information and lacks a comparative methodology to lend perspective and rigour.

There are however, a few academics and practitioners in between these two extremes whose work is more useful for this literature review. There are a few notable comparative case studies (Glover and Kusterer, 1990; Glover and Ghee, 1992; and Little and Watts, 1994) that have tried to isolate the determinants of smallholder welfare in outgrower schemes. Watts (1990) has been an outspoken critic of contract farming and considers it to be essentially a system for self-exploitation of family labour 'replete with company manipulation and abrogation of contracts'. He draws attention to the 'oppositional energies' evoked by contract arrangements; the way that contracts function both as a means of subordination and a point of resistance. This part of his work is interesting and will be returned to when considering some of the evidence on the effect of contract farming on Farmer Organisation in the Ivory Coast and Ghana (Daddieh, 1994). Little and Watts (1994), in the same book, argue that the problems arising from unequal power relationships as well as market fluctuations, often make contract farming unsustainable in the long term. They do however suggest that, because of the diversity of contract relations in terms of scale, conditions etc., 'it is better to focus on the motives and power relationships of contracting parties than on the generic institution' (1994: 217).

Glover (1983; 1987) and his comparative studies mentioned above, is more positive about the potential of contract farming. Whilst acknowledging that contracts are often exploitative he also emphasises that contract farming and outgrower schemes have very often led to a significant rise in living standards. As he points out, at the beginning at least, there is far less room for exploitative relations between the outgrower and contractor than in traditional patron-client relations. The smallholder cannot be forced but has to be induced to become an outgrower and the main inducement is price. Contract farming should be examined case by case in order to understand its potential as a tool in rural development strategies. Such a study should focus on an analysis of the economic logic behind contract farming and its political implications, in particular the effects of contract growing on the process of empowerment and political organisation by outgrowers. His studies have also paid considerable attention to the impact of contract farming on regional development and those not included in the contracts.

Contract farming has attracted such polarised viewpoints for several reasons. One is that with its dramatic linking of smallholder and national/international capital, it is bound to excite pre-existing ideological viewpoints of what the outcome of such a marriage will be. Another is that there are many actors in contract farming (it is very difficult to define a simple private-public dichotomy in contract farming) and most have different motives. There is firstly the economic logic of contract farming as a way to divide risk between growers and contractors. There is also the public motive of promoting smallholder development, transferring technology, building a smallholder political base *and* generating foreign exchange. Further, smallholders are motivated by, amongst other factors, food security, cash flow and risk avoidance. These private and public objectives, often operating

simultaneously in a fluctuating market, can obscure what part of contract farming is being evaluated and how.

Nevertheless, an examination of institutional roles and objectives is valuable for an understanding of how tree outgrowing might work. As Arnold and Dewees (1997) argue, it is important to shift the debate away from the 'forestry' and 'welfare' approaches to the analysis of farm trees in the 1970s and 1980s. Policies to promote tree outgrowing will be motivated both by development and profit objectives; smallholders will most likely be considering both cash and food security; and public policies will have to balance consumer and producer prices etc. In the course of this study, no literature has been found that explicitly draws on the long experience of agricultural outgrower schemes to inform similar schemes for trees, although Arnold (1997) mentions the importance of doing so at the end of his paper on tree outgrower schemes in South Africa and the Philippines. In South Africa, some studies (in particular Anne Vaughn at the University of Natal) are beginning to draw on the long experience of sugar outgrowing to inform outgrower schemes for pole, pulp and timber.

3. Objectives in contract farming, the actors, and constitution of the contract

This section will examine the emergence of contract farming, the objectives of the different actors involved and the constitution of the contract.

3.1 Origins of contract farming

There are several global factors that led to the emergence of contract farming. One was the break up of many plantations in colonial countries after Independence when foreign agri-businesses were subject to nationalist pressures, threats of expropriation and new conditions of profitability with a changing international division of labour. In a world of price instability, political uncertainty over nationalisation and tax regimes, unionisation of some labour forces, it is easier for a foreign company to drop short-term contracts with smallholders than the management of an estate. Second, independent peasants and newly settled pioneer farmers are drawn into outgrower schemes under state and/or private auspices. These schemes are often run in cooperation with international lending agencies and development banks. The International Finance Corporation and the Commonwealth Development Corporation are amongst the biggest supporters of outgrower schemes and have pioneered palm oil, cocoa and rubber contracting across Asia, Latin America and Africa. Little and Watts (1994) trace the recent popularity of contract farming to IMF austerity measures and attempts to revive flagging export markets. The World Bank has 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.

Most outgrower schemes have more than one sectoral actor involved, especially in Africa where cases of strictly private sector schemes are rare. The usual model for large contract farming schemes is for the state to have some involvement; a review of 67 contract farming schemes in Africa showed that 70% had either full or joint state ownership (Little and Watts 1994). Some of the largest outgrower schemes such as palm oil in the Philippines, rubber in Malaysia and tea in Kenya are public sector schemes. In practice the public-private sector dichotomy is even more complex as a public sector scheme may be under private management; or a private scheme may be supported by subsidies, extension and research. Judgements on the economic logic of the contract vary widely. Neo-classical economists would argue that contracts are freely entered and serve to insulate the small producer from the market. They allow the smallholder to make use of their endowments in imperfect markets and arrive at combinations of income, effort and risk, which reflect their resources and preferences. Little and Watts would argue that 'contract production among peasant and smallholder growers aims to exploit non-wage household labour through dense networks of dependence and subordination' (1994: 65). Contract farming appears in such diverse forms, that it is better to focus on the motives each participant has and the relationships of contracting parties, rather than trying to isolate a generic institution.

3.2 The contract: Different objectives

In many cases, a single contract farming scheme must fulfil the multiple and often conflicting objectives of its various partners (Glover, 1987: 442). The development component of schemes may require the schemes to meet certain criteria for equity, but development projects are often not economically viable in the long run. In other cases, contractor monopsony and profit maximisation, often combined with a powerful contract, can have serious repercussions for small contract farmers.

These problems are all the more difficult to disentangle and evaluate when a scheme has multiple partners with different and sometimes hidden agendas.

3.3 The private contractor

All the crops under consideration in this review have economies of scale in infrastructure, processing and transport associated with their production for sale. Many of them were traditionally grown in plantations and estates for this reason. Outgrower schemes that allow the company to delegate production to smallholders have several advantages. The contract assures (in theory) the company of regular inputs of raw material from the smallholders so that it is able to meet its economies of scale. They would not be able to achieve this through purchases on the open market, whereas contracts can specify planting dates as well as total quantity to be delivered. The contract therefore both reduces uncertainty and gives the company control of the production process. Further, the company does not have to invest in land, hire labour or large scale farming operations. Some companies (and parastatals) retain a 'nucleus estate' surrounded by outgrowers, especially when the economies of scale of the processing plant (such as for palm oil) depend on a certain volume of throughput. Many companies have withdrawn from production completely, delegated responsibility for processing, and retained control of only the most critical stages of marketing. Avoiding conflict over landownership and labour issues is an important advantage of the contract, whatever the level of integration of the company. Little and Watts (1994) argue that not only does contract farming allow potential problems with labour to be avoided, but it allows the company to profit from self exploitation and exploitation of the family.

Apart from these economic reasons there are several political reasons why contract farming is attractive to private companies. It allows the company not to invest too many resources in a country and therefore to avoid the risk of appropriation. Contract farming, presented as a smallholder friendly scheme, can be good for the public image of a company and give the impression that it is progressive. This can be exploited by the company to encourage the State, or even international aid agencies to provide credit for operating capital or for the rehabilitation of plantations.

3.4 Governments

Contract farming schemes offer governments the potential of combining development issues with foreign exchange earnings. They are therefore often very politically attractive. They avoid foreign ownership of large tracts of land, and may also create the impression that other features associated with plantations such as the enclave effect are avoided. Outgrower schemes may also appeal to governments who whilst realising the political necessity of addressing the needs of the smallholder, prefer to keep them under a central authority. Ellman (1986) has found the stated aims of the government to increase cash and food crop production; maximise rural employment generation; improve social facilities and rural infrastructure often clash with implicit objectives which are to (1) accord political acceptability to a plantation-type project; (2) to mobilise cheap family labour for production; and (3) to move possibly reluctant farmers from a heavily populated area to an under populated one. Outgrower schemes are often linked to, and facilitate resettlement schemes. Further, contracting often creates lucrative opportunities for absentee landlords, especially with crops such as rubber (and trees in Thailand on a CDC scheme) which are not labour intensive.

Glover and Kusterer (1990) argue that contracting has trade-offs for policy makers, even if their objectives are solely motivated by promoting rural development. 'The contracting relationship is not a 'zero sum game'; the distribution of benefits between the firm and its growers can affect the total magnitude of benefits available' (1990: 157). For example, a bank may supply credit to

growers and expect high producer prices so that the growers can repay their debt; the price control agency will try to keep prices down to safeguard the interests of the consumer, and the Ministry of Finance will expect enough revenue for the company to be able to tax its profits.

3.5 Outgrowers

The primary motive for smallholders to become outgrowers is market access, and therefore increased income from the sale of a cash crop with an acceptable level of risk. Local markets for commodities are often highly volatile and prices can drop within days. International markets are more stable than local ones but inaccessible without specific channels such as those provided by outgrower schemes. Smallholders are often reluctant to adopt new technologies because of the risks involved. Further, there is no guaranteed supply of inputs such as fertiliser and agro-chemicals from the government and public extension services that are often poor. Contract farming provides the smallholder with access to these technologies and with extension, either private or priority treatment from the public extension service. The company has a large vested interest in ensuring the smallholder has access to these services. It also gives them access to credit, which is one of the most frequently given reasons for smallholders to become outgrowers. An analysis of the different systems for providing credit will be returned to in a later section.

3.6 Foreign aid agencies

Contract farming is attractive to foreign aid agencies for many of the same reasons that it appeals to national governments. It provides a regulated system for channelling large amounts of money straight to smallholders; it provides for the transfer of technology; and it involves different sectors. Many donors, particularly in Africa, prefer private sector involvement. The other motive is profit; CDC and the World Bank have pioneered some very successful smallholder schemes. In fact, many of these aid projects are commercial projects with a smallholder component to make them politically acceptable and able to qualify for funding. Ellman finds that a major problem with contract farming is that different partners in the projects may have different objectives and these are often not clarified (CDC, 1989). Table 1 lists the objectives compiled by CDC.

Table 1 Objectives of a smallholder program

Farmers	Government	CDC
1. Secure food supply	1. Increased production of priority food and cash crop	1. Farmers and Governments able to achieve objectives
2. Increased income from sale of cash crop	2. Maximum net foreign exchange earnings or savings	2. Sustainable economic development from investment in cash crop
3. Improved standard of social services	3. Minimum cost to national exchequer	3. Recovery of loan funds and interest payments from project
4. Maximum utilisation of own resources	4. Maximum rural employment generation	
5. Minimum exposure to risks of indebtedness, crop failure, imposed authority	5. Improved social facilities and rural infrastructure. Impact on growth in areas surrounding project	

Source: CDC (1989)

3.7 The constitution of the contract

There are three observations that it is useful to bear in mind in considering the constitution of contracts. The first is that the contract is the means by which risk is distributed between the outgrower and the contractor. The second is that the contract is a ‘representation of a relationship rather than the relationship itself’ (White, 1997) and related to this, the constitution and administration of a contract is highly dependent on the political and economic environment in which it is embedded. Contracts can be thought of as varying in intensity between those that pay the market price on delivery and those in which every detail, including the production process and price, is fixed (Glover and Kusterer, 1990). The division of value added between the grower and the contractor is determined by the policy objectives of the scheme (whether purely commercial or not); crop characteristics and the dependencies these create; the economic strength of the contractor and outgrower; and the alternative markets available to them. The following table outlines the typical rights and obligations in smallholder contracts.

Table 2 Rights and obligations of farmer and project authority in smallholder contracts

Farmer Obligations	Project Authority Obligations
1. Use land for purposes specified in contract	1. Supply credits and inputs
2. Follow production regulations specified in contract	2. Provide technical and managerial support
3. Maintain internal farm roads and drains	3. Maintain infrastructure
4. Sell crop through project authority	4. Purchase all production of acceptable quality
5. Repay loan	5. Pay farmer according to agreed formula
	6. Maintain accounts in a comprehensible form
Farmers rights	Project authority rights
1. Timely receipt of services and payments specified as obligations of project authority	1. Timely recovery of payment for services provided to farmers
2. Compensation in the event of default by project authorities on any of its obligations	2. Purchase of crop as specified in contract and imposition of penalties in the event of default

Source: CDC (1989)

Contracts should in theory specify in detail the rights and obligations between the outgrowers and the contractors, including the penalties for breach of contract by either side. However as Glover (1987) has commented, few contracts are ‘perfectly contingent’ and most are vulnerable to interpretation. The CDC review of contractual arrangements in its projects reveals ‘a surprising lack of clarity in the articulation of rights and obligations on many projects, and in several cases where a formal document has been drawn up, it is heavily weighted against the smallholders and in favour of the project authority’ (CDC, 1989: 85). For example; in Kaleya, a project in Zambia, smallholders have to sign an 18-page agreement which specifies their obligations. The company in return ‘endeavours to arrange’ certain services but there is no corresponding clause protecting farmers in case of the companies default. The Kenyan Tea Development Authority has no formal contract, which leaves the outgrowers dependent on the goodwill of the project authority. This has so far been successful, largely because of mutual dependencies and the support that KTDA has received.

Contracts tend to be more favourable for smallholders when the processor is heavily dependent on the smallholder for a steady flow of raw material. For example, a good contract is the Mumias sugar project in Kenya and the ‘Contract du Planteur’ at Palmindustrie on the Ivory Coast because

processors are heavily dependent on smallholders for raw material (88% and 40%) (CDC, 1989). The review suggests that even these contracts, which are amongst the best, fail to specify graded penalties for non-performance of obligations; clear explanation of the price formula and procedure for paying growers and a procedure for independent arbitration.

Commercial contracts, at least in the initial period, will try to ensure that they have the best possible arrangement for exploiting the resources of their outgrowers. In the initial phases of the project, outgrowers will be attracted by price, credit and technical incentives offered by a company. As will be explored later in more detail, many companies do offer these in the initial phases of the project and then lock outgrowers into production through exploiting gaps in the contract. Contractors, whether commercial or project, frequently have long waiting lists of outgrowers who would like to join their schemes and are therefore able to be demanding in the requirements. For example, they can often specify the assets that the applicant should have, level of experience with the crop, availability of labour to produce the crop, secure title to land and education. Many of the requirements eliminate poorer farmers, and the selection procedure is also often dependent on interviews and patronage ties. The contracts can also specify age and marital status of an outgrower. For example in Ghana, oil palm outgrowers have to be married with children and be able to direct their family labour to the production of oil palm. The contract, and any debts incurred under it, is inheritable and transferable.

The contract can also specify the amount of land which can or should be put under the contracted crop. For example the Kenyan Tea Development Authority specifies a limit to the area put under tea in order to ensure that the labour to harvest it is sufficient and the output maintains a high quality. More commonly contracts enforce monocropping. They either ban the cultivation of food crops entirely or specify how much can be planted and where. The CDC review mentions this as a major potential problem with contract farming. In some areas, for example some Tanzanian highlands where tea has replaced maize, the contracted crop is replacing an uneconomic subsistence crop and the overall welfare effects are positive. However, in many areas this regulation leads to spiralling food prices. More commonly, smallholders continue to plant subsistence crops, although without any extension support or guidelines, which contributes to suboptimal production of both crops.

Most problems which are incurred under contract are a consequence of the contingent nature of the contract, and manipulation on both sides, rather than the terms which are written into the contract. The relative dependencies of the contractor and outgrower are extremely important in deciding how contracts are administered. The most common problem for the contractor is that they are unable to maintain their monopoly of the market and other buyers appear and offer a better price. The contract usually safeguards the contractor from such eventualities by specifying levels of production, deducting costs in advance and supplying credit. A further problem is that another contractor moves into the area and takes advantage of the investment the pioneer company has injected into technical know-how and infrastructure development to offer outgrowers a better deal. Companies can also face problems from manipulation of the product, for example, adding stones for weight, adulterating produce as revenge, and using patronage ties to upgrade produce and to divert inputs intended for contracted crops elsewhere. Watts (1990) has found that companies also use informal ties to enforce contracts and ensure grower loyalty when legal and property rights are difficult to control. 'It is not unusual for companies to suspend any faith in formal legal institutions and to rely instead on painstakingly constructed relations of trust, patronage, and traditional reciprocities – a moral economy of sorts – rather than the word of law' (Little and Watts 1994).

The examples above relate to ways in which the contractor can be exploited. However, the reports of contract farming covered in this review suggest the leverage provided by the contract is most commonly with the contractor. Not only are they responsible for its drafting and aware of the potentials and pitfalls of every clause – unlike many barely literate farmers who have signed these

lengthy legal documents – but they usually have state support to enforce their interpretation of the legislation. One of the most common manipulations of the contract relates to quality standards which the firm can arbitrarily raise to control volume and to get a proportion of the produce at a lower price. Many companies specify production procedures which maximise short term output and mine the soil at the cost of long term sustainability. Companies are also able to levy unspecified charges for goods and services delivered and deduct these directly from payments for goods. Some companies will argue, for example, that an outgrower has not weeded their field properly and then send a labour team around to do this and charge the cost to the outgrower. In fact, one of the most common complaints in all the reports relate to unspecified charges and late payments.

Glover (1987) has pointed out that it is not always clear whether a breach of contract is deliberate or caused by bad coordination. For example, it is difficult to coordinate collection and delivery to many smallholders over a different area and when a truck is late, it is possible that this is not deliberate, although it may mean the produce has spoiled and gets a lower price. There are other manipulative practices which are not company procedure but the operation of corrupt officials. It is easy for officials to exploit tea outgrowers who need inputs or early assistance with extension, to bribe oil palm outgrowers whose produce is dependent on being processed, and to charge a routine fee to ensure that coffee is placed in the right grade.

3.8 Land tenure and the contract

The CDC survey of its projects found that security of land tenure is very important in determining relative positions of strengths in drawing up the contract. The outgrowers in settler schemes have to sign more stringent contracts than smallholders who own their land. Smallholders are generally free to cultivate what they want using whatever method of cultivation they desire. This was not the case prior to Independence when ‘cultivation by regulation’ was central to colonial agricultural policy and smallholders were barred from cultivation plantation crops. The only way in which cultivation can be regulated when land is privately owned, is through the contract which obliges farmers to follow the rules of cultivation in return for credit, inputs and marketing. Because smallholders have to be induced to become outgrowers, the terms, at least initially, have to offer the smallholders some economic incentive. The land in settler schemes is often leased in short tenures and the lease contingent on following strict production procedures. The contractor therefore has much more control over cultivation, the terms of the contract, and the extent to which they are able to manipulate the contract.

The CDC report makes several recommendations on suitable land tenure arrangements for contract farming. It recommends secure tenure during the lifetime of the smallholder; an acceptable method for inheritance or sale of land; a mechanism to prevent the misuse of the land and an acceptable collateral for loans as essential elements of secure land tenure for contract farming. All of these recommendations point towards individual ownership as the preferable land tenure for contract farming. The CDC experience finds that where customary land tenure systems have not been converted into individual rights in land, outgrowers do not feel sufficiently secure. For example, the village growers in the Higaturu Oil Palm Project in PNG did not feel sufficiently secure to plant tree crops until their customary tenure rights had been converted to freehold tenure under the Land Tenure Conversion Ordinance. This is also required by the Agricultural Bank of PNG before it will sign loans, although it does accept a ‘Clan Land Usage Agreement’ which is an intermediate arrangement signed by clan landowners acknowledging the right of a farmer to use a piece of land. Some contracts have been given for contract farming on communally owned land. For example, in Nigeria the Risonpalm Nucleus Estate does not enter into production contracts with outgrowers, but instead contracts with middlemen for the supply of palm fruit from communally owned palm groves (Tiffen and Mortimore, 1990) and so avoids the need to disturb traditional land tenure.

Another issue of some importance, especially in Africa, is whether the inheritance system is matrilineal or patrilineal. The CDC review for example, finds that the matrilineal inheritance system in parts of the Ivory Coast is a serious constraint to long term tree crop development because the land passes to a man's sister's son rather than to his own son. It is found that this reduces incentives to manage long term crops and leads to disputes on the man's death. The pattern is now changing and some projects, such as Societe Africaine de Plantations D'Heveas (rubber) require a 'Certificat d'Heritage' before allocating a contract.

3.9 Comparative advantage of different sectors in contract farming¹

Government departments: CDC is reserved about the feasibility of running smallholder schemes through regular government departments because of the bureaucracy time involved; the lack of motivation of government staff due to resource shortages, and frequent staff transfer. However, they acknowledge that the government is difficult to bypass because it possesses obvious economies of scale. It is the biggest employer of trained agricultural personnel and drawing government staff away through awarding high salaries has negative long term consequences. However, a degree of financial and managerial autonomy is often critical in allowing a government department to overcome some of the bureaucratic difficulties, which could slow a project down.

Parastatal authorities: Parastatals have the potential of being a compromise between government departments and private sector companies, but in practice they often run into similar shortcomings to those which characterise government departments. They are not commercially viable, they are subject to political interference and manipulation, and they are bureaucratic. However, some parastatals which have some autonomy (like the Kenyan Tea Development Authority) perform well. An ongoing problem with many parastatal run projects is whether or not to establish a separate extension service and how to deal with conflicts in seconding staff from the MOA.

Private or joint venture companies: Private companies are in general the most preferred option for CDC. Their advantage lies in managerial and financial autonomy, accountability and high quality staff. However there are possible conflicts of interest in a commercial company between shareholders and producers. These can however be minimised if the growers own a stake in the company, if they are protected by the government, or if there is a separate organisation which protects their interests. Private sector companies also tend to adopt authoritarian styles of management which do not encourage smallholder empowerment. A possible way to temper these problems is to restrict the private sector to those stages of a project which lend themselves to commercial operation. This is highly recommended by CDC as long as the rights and obligations of the individuals are well specified in a contractual agreement.

Cooperatives: Cooperatives should in principle be the ideal institution for integrating all stages of the production process and ensuring farmers are fully represented. However the experience of cooperatives, mainly due to poor farmer representation, bureaucratic inefficiency and political manipulation has not been very good.

Voluntary organisations and NGOs: These have so far not played a major role in contract farming. Their potential will be considered further in Section 8.

¹ This section draws on the experience of CDC projects (CDC, 1989).

4. Crop specific factors and technology transfer

4.1 The crops under review²

Coffee and tea are typical shrub crops. They differ from tree crops in that they need a high input of manual labour for pruning, weeding and harvesting and the end product requires early processing and can be transported at low costs. Tea and coffee cropping are determined mainly by soil and climatic conditions. **Cacao, rubber and oil-palms** are tree crops. They have low inputs of labour for maintenance but long gestation cycles until they can be harvested. Until the 20th Century, cultivation of perennial crops for export took place mainly in estates or plantations because they are suited to economies of scale. Almost all types are now grown in plantations as well as smallholdings although some of the crops are better suited for large scale production. Some major examples of smallholdings in Africa and Asia are: Cocoa in Ghana and Nigeria; rubber in Malaysia, Nigeria and Sri Lanka; coffee on the Ivory coast, Kenya and Madagascar; oil-palm in West Africa and tea in Kenya and Malawi.

Box 1 Advantages and disadvantages of farming systems with perennial crops

Advantages

- Individual land ownership established and investment in permanent improvements
- High productivity per hectare
- Coffee, tea and rubber are labour intensive so good for employment
- Labour often spread throughout the year and easier than arable farming
- Advantages of monoculture without reduction in soil fertility
- Often can use land not suitable for arable farming
- Fluctuations in yield smaller than arable farming
- Products can be transported and stored
- Considerable scope for intensification
- Cultivation can begin with only a few plants

Disadvantages

- High initial investment and yields do not reach capacity until after a few years
- Often important that processing should take place shortly after harvest
- Need processing plant, therefore high fixed costs
- Often need early skilled labour for good plant development
- Unlike arable farming, committed to one type of production for a long time

Source: Ruthenberg (1980)

Coffee: In most cases production started on estates and then spreads to smallholdings. Because coffee growing is good on a small scale much of the expansion since 1930s has been in outgrower systems, especially in Colombia and East Africa. In Kenya, half the coffee is produced by the small farm sector. Estate production has recently gained in competitiveness because of the rapid application of technical advances like improved varieties, mineral fertilising and plant protection. However, coffee growing is adaptable to big differences in farming intensity and to various forms of mixed cropping and intercropping; it is not very susceptible to disease; its most important input is manual labour but no pronounced peaks in labour demand; and it can be dried on farm or processed in small pulperies.

Tea: Tea can grow on acid soils in cool moist areas poorly suited to other crops. Tea has therefore been used to bring development to poor areas. It has a productive life of over 100 years and levels of productivity that can be easily influenced by early management, although bad early management is

² This section draws almost entirely on Ruthenberg (1980).

extremely difficult to rectify. Tea also requires harvesting many times per year and the main labour requirement is for the actual plucking of the crop. Smallholdings are difficult to organise because tea has to be plucked and processed within a few hours and because of the importance of improved techniques. Further, economies of scale are pronounced and there is a tendency towards large factories. Estates are quicker in the adoption of innovations and produce double the amount of smallholders. However, the welfare effect of smallholder tea production is obviously higher and has been especially successful in Kenya, Tanzania, Uganda and Rwanda.

Cocoa: Cocoa, unlike tea, does not have large economies of scale; processing facilities can be designed to deal with different sizes of yield. It is therefore produced in many different sized holdings. Smallholders predominate in West Africa. The size of cocoa plantations is usually a function of the labour capacity of the household and their ability to invest time and labour into a crop which does not produce until 6–7 years. Cocoa is also often grown by men whilst women continue to be in charge of subsistence farming.

Rubber: Rubber is grown by both large and small producers. It has a long gestation period; about 7 years from planting to production with traditional varieties. Manual labour is a main item of cost, although there is no pronounced peak in labour demand as tapping can be done on a regular basis. The costs of establishing rubber plantations are high although it is easy to introduce innovations, and economies of scale are pronounced as higher yields do not lead to higher labour demands. For smallholders, rubber tapping is often part of an integrated farming system as a supplementary source of income. Smallholders are situated mainly in Sri Lanka, Sumatra, Malaysia and Nigeria. Tapping can be done whenever there is labour available. Both smallholders and estates have their comparative advantages. Smallholders may not receive maximum yields because of irregular tapping, lack of manuring and poor cleaning. However, estates may be hit by falling prices whereas smallholders can wait and let trees rejuvenate.

Oil Palm: Oil palm was part of subsistence based production systems as food, cash, medicine, construction, soap, and fuel. A genetic breakthrough changed palm oil from a low yielding but integrated crop into a high yielding commercialised crop. Modern oil palm production lends itself to estates because of its positive response to weed and bush control, regular employment of labour force and the need to process soon after harvesting. The initial capital investment is higher than with other tree crops but lower than for tea and coffee and the gross returns are higher than other tree crops. In outgrower schemes, smallholder oil palm production no longer has the close relations with other farm activities that used to exist with traditional palm groves. Oil palm is now often grown in a ‘dualistic system’; a small plantation separate from the other crops.

4.2 How important are crop characteristics for contract farming?

One of the factors in contract farming which is often debated, is whether contracting is commodity specific. Related to this – what influence does the crop have on the nature and effectiveness of the project? Binswanger and Rosenzweig (1986) argue that technological conditions and crop characteristics combine to give rise to situations in which contract farming is the most viable option. This is specifically crops for which important economies of scale are associated with processing, coordination and perennials which need much maintenance and take a long time to mature. This is why commodities such as tea, cocoa, coffee, rubber and palm-oil are grown under contract. Commodities grown under contract are also often grown to specifications linked to grade and quality standards that allow the commodity to be classified and priced. Goldthorpe (1995) uses tropical tree crops as an example in drawing the link between the technology of production and organisational structure. He argues that the characteristics of tropical perennial tree crops favour production in organisations which have a rigid and hierarchical authority structure and a division of labour

according to tasks and functions. The need for such an organisation is more pronounced the greater the investment, the newer the crop, and the more demanding and less commercialised the growers are.

Goldsmith (1985) has isolated technical requirements which contribute to the development of a contract system:

- Perishability: if one cannot store and needs to find a market
- Bulkiness: high value per unit and economic to transport
- Permanence: growers of tea/coffee etc. cannot abandon. Locked into relationship with processor.
- Processing: need for processing creates dependence which can be exploited
- Variations in quality: contracting encouraged where crops vary in quality and quality is important for processing. Includes many tree crops. Justifies expensive system to make sure farmers comply

However, whilst it is clear that crop characteristics do influence technologies and production strategies, the labour form attached to a commodity (whether plantation, outgrower, independent smallholder or cooperative) is often best explained by the larger and political environment. It is also more relevant (for an analysis of the suitability of different trees for contracting) to consider the types of contract which different crop characteristics give rise to and how these are shaped by social relations. Further, how crop characteristics affect household welfare (is there a gender division of labour; displacement of food crops?); regional development (is the crop employment generating either in production or processing; what happens to regional food prices if it displaces food crops?); and sustainability and future development (is there technology transfer, do outgrowers remain dependent etc.?).

4.3 Some examples of crop characteristics and how they influence contract farming

Type of processing

The type of processing which a crop needs has a clear impact on the contracts and production relations under which it is grown. When a crop (tea and palm oil) needs quick processing, outgrowers are particularly vulnerable to the terms stated by the contractor if they have no alternative place to bring the crop. The fixed capital assets of palm oil processing plants represent a high proportion of the cost of processing, so the profitability of the firm depends highly on the ability to operate very close to plant capacity. The form the contract takes will therefore be influenced by the need to maintain maximum production. Many palm oil estates are government run for this reason and operate through the nucleus estate-outgrower system so the contractor is not wholly reliant on the outgrowers.

The importance of quality

The importance of quality in the produce will have a bearing on production procedures. In some cases this will be through the transfer of technology to the outgrower and an investment in their ability to farm. This is the case with tea in Kenya, for example, where proper husbandry of the plant at an early stage is critical for later productivity. Extension agents visit outgrowers and transfer some of the skill for plant establishment. In other cases, the company will specify uniform production procedures which are not easily transferable and which do not build on the outgrowers indigenous knowledge of their micro-environment. In other cases there is very little technology

transfer. For example, rubber and oil palm are homogenous and do not justify an expensive system to make sure farmers follow stringent practices and stringent grading requirements. Processors of such products have relatively weak incentives to provide producers with new technology.

Labour intensity and frequency

The labour intensity of the crop, and the frequency of labour input needed, has an enormous effect on how it is produced. Tea has been heralded as the perfect contract crop because it is labour intensive throughout the year and yields a monthly income. Rubber is a promising smallholder crop for the opposite reasons, it is not very labour intensive and can be harvested whenever there is labour available. The effect of labour intensity and frequency is therefore likely to depend on what role the contract crop has in the larger farming and social system. For example, palm oil production in PNG suffers because the crops have to be cut every two weeks and this rhythm is difficult for people who have gone walk-about, to maintain (CDC, 1989).

Regularity of income and investment needed

Rubber, oil palm and tea are attractive for smallholders because they receive a monthly cash income compared to the annual payments received for cocoa and coffee. ‘An oil palm grower is like a civil servant – a regular income and no work’ (CDC, 1989). However most perennials, in particular cocoa, rubber and oil palm take a long time to mature. Smallholders therefore have to introduce these into their cropping systems gradually, or accept credit, and the associated risks, until their crops produce.

Shifting costs

The shifting costs associated with different crops, are the costs to a producer of shifting to a new buyer (Glover, 1984). These have been identified as the principal determinant of agricultural marketing structures and the credit systems associated with them. If the costs were low, producers would be free to choose their buyers. However, buyers would not be able to extend credit because they would have no assurance that this would be paid back or that they would reap the benefits of technical assistance to growers. If shifting costs were high they could develop a permanent producer-buyer relationship but there would be no assurance that the benefits would not be appropriated by the buyers. The ease with which outgrowers can shift is heavily influenced by the ease with which product quality can be assessed, the perishability of the product and the need for purchased inputs.

4.4 Productivity of the crop under smallholder production

A fair amount of attention has been directed at assessing the relative efficiency of smallholder and estate production. However as Carr (1993) points out, many smallholders are not trying to maximise production but to take a risk-free strategy given the policy constraints. Higher smallholder productivity would be possible if these constraints were removed. He argues that unlike food crops, which are grown everywhere, export crops are only grown in areas well suited to their growth. There are therefore few ecological constraints and many well developed technologies available for the smallholder. However, unlike food production, export production is very sensitive to government policies on agriculture, exchange rates and retailing. Technical matters require further research but to a great extent production increases will be achieved more by policies which remove the constraints on smallholders using technology.

He illustrates this through examining production techniques for robusta and arabica coffee in Africa. The technology for both is highly developed but smallholder yields are often well below farm-level potential. With **robusta**, high yields can be achieved by growing the crop in a pure stand without shade but with regular weed control and heavy mulching. Many farmers have lost trust in the marketing system, have faced delayed payments or have to compete for labour with a more profitable crop (cocoa), so grow coffee interplanted in the forest shade. This reduces the burden of weeding and mulching and with interplanting guarantees an alternative crop if the marketing system for coffee fails. It also results in comparatively low yields which will probably not increase unless long term confidence in the pricing and marketing system to induce farmers to adopt a long term strategy is created. In the case of **arabica**, the achievement of high yields is more dependent on purchased inputs to control pests and disease. The use of such inputs can only be justified on a well-maintained garden and so farmers need the incentive to invest both labour and cash into the crop. These have been limited by delayed crop payments, high levels of taxation and inefficient input distribution. The best average district yields in Kenya are in areas where cooperatives operate efficiently. If the policy environment for arabica improved then yields can increase drastically through simple technical measures such as pruning, weed control, additional nutrients.

4.5 Technology transfer, research and extension

As mentioned earlier, one of the major reasons that contract farming has won approval for its developmental potential is that it is a way to transfer technology to small farmers. Since the contractor will have a direct interest in improving the quality of the produce, the theory is that it will provide more and better technical assistance than the public extension service. The evidence on contract farming as a method with which to transfer technology is however rather mixed. Ellman (1986) finds that CDC projects have been successful as a means of transferring technology. Further because CDC has concentrated on limited crops, they have developed some expertise and new farmers do not need to be treated as test cases for new technology. This has been mentioned as a potential problem by Carr (1993) who says in many instances, the medium and long term consequences of some new technologies are not yet evident. However, the potential problem with transfer of monocrop technology is that it may not transfer knowledge on how to manage the farming system as an integrated system. Many production techniques are highly crop specific. Further, sometimes contractors find it difficult to coordinate production amongst smallholders and therefore insist on standardised inputs and production procedures. This can lead not only to less than optimal productivity, but also it does not challenge and build on the outgrowers' existing knowledge of their micro-environment.

Contractors may therefore transfer technology but do not necessarily contribute to the development of a smallholder technology as an integrated system. In particular, CDC has found there is no assistance in intercropping or maintaining subsistence crops as part of the farming system. Another reason that the contractor may be unwilling to develop or release such information is that such information would then be in the public domain and companies argue the government should provide this role. Companies are also reluctant to transfer any technology which is related to processing (Goldsmith, 1985). Glover and Kusterer (1990) find that rapid technology transfer is most likely to occur when a new crop has been introduced for which quality standards are very important. However, crops for which the technology undergoes rapid change can have the effect of excluding smaller growers because their comparative advantage – labour intensive use of land – will have to compete against the usual ability of larger growers to adopt technology faster.

Many public sector outgrower schemes do not maintain good extension services to their smallholders. A survey of the coffee research project in Kenya, for example, found that most smallholders are unaware of the recommendations of the research project (Nyoro and Whittaker, 1986). Private sector

schemes relying on public sector extension agents have the effect of concentrating the services in one area and thus making them unavailable in others. This is the case with the KTDA which draws heavily on the public extension service but does not contribute to its maintenance. Despite this, the timely delivery of inputs and extension is often contingent on personal contacts.

Glover (1987) makes the insightful point that, apart from straightforward technology transfer, outgrowers gain experience of 'the system' through contract farming. Outgrowers can become astute in learning how the market works, learning how to account and how to run their farm more like a business. Even an unfavourable situation can have positive effects if the outgrowers have the freedom to apply their knowledge of the situation in another circumstance.

5. Financial viability of contract farming: Marketing, price and credit

This section will consider the financial and economic viability of contract farming. Typical marketing arrangements and problems; the establishment of the price; and procedures for advancing credit will be reviewed. One of the major issues of debate in contract farming is how efficient it is in comparison to plantation production and whether it is financially viable to promote as a route to development. Some of the evidence on this issue will be considered, by analysing the capital investment structure and the arguments made for smallholder efficiency.

5.1 Capital investment

Contract farming usually involves a variety of actors including international agencies, government ministries or parastatals and private firms. In some cases the role these actors play is so intertwined that it is difficult to classify the scheme in any sector. This raises some important questions in assessing the financial viability and sustainability of smallholder schemes. How is the risk shared within these projects? For example, sometimes producers receive public credit at a subsidised rate. Does contracting with local producers allow foreign firms to shift the burden of financing crop production onto local governments and international aid agencies and benefit from indirect subsidised loans?

The capital investment levels per hectare and per farmer in contracting projects are high. This is especially so in settlement schemes where land and infrastructure have to be developed. The Kenya Tea Development Authority (KTDA) spent less than £250 each on more than 151,000 existing smallholdings, whereas a settlement scheme in Zambia required £25,000 per settler. Most projects revolve around high cost processing units. The major source of finance for smallholder projects are the government, local banks and companies and international funding agencies such as CDC. The types of finance used include equity investment, loans, grants, services provided in kind and self-generated funds (CDC, 1989). Few smallholder projects have more than token equity investment (apart from smallholder land and labour investments) because of the riskiness of the venture from the viewpoint of the funding agency, and the readier availability of loan finance than equity capital. The CDC review finds that a problem with the financial structure of their projects is the high debt to equity ratio which exposes the projects to financial risk; and the concentration of equity capital, where it exists, in the processing unit which introduces the risk of conflict between producer and processor. The review also finds that it has been difficult to phase out the subsidies from grant funds which would be necessary for long term financial sustainability. So far, the process of reinvestment through self-generated funds has been minimal.

5.2 Marketing and price

Empty rhetoric to the contrary, contract farming represents the antithesis of free market forces. Contract farming schemes usually arise because of imperfections in the market environment that do not allow normal price signals to regulate supply. In many cases the market niche is either so narrowly defined or so unfamiliar that growers would not produce the crop unless they were under contract in a vertically integrated market system' (Little and Watts, 1994). Thus, contract farming is in fact a response to market imperfections. The contracting scheme then tries to internalise the market for the commodity and avoid market competition. A market monopsony is an essential component of contract farming as it is the only way to ensure that companies can secure a return on their money. This can be difficult with crops, such as coffee and cocoa, which are relatively easy to process and to market independently. It is usually when farmers begin to behave as free market

actors, selling their goods to the highest bidder, that contract schemes run into problems. Many companies often depend on the state to ensure they receive a market niche that is kept free from too much competition.

A lot of the bargaining between producer and contractor over price depends on the shifting costs, referred to in Section 4, of a crop. If the costs to a producer of shifting to another buyer are low, producers would be free to choose their buyers and bargain over the price. However, the relationship between producers and buyers would be transitory and the buyers would be less willing to supply the producer with credit, inputs or technical assistance if they were not assured of a return on their investment. If shifting costs for the producer are high, then the contractor can be assured that they will have a return on their investment but the producer would not be able to bargain over price. The shifting costs of a crop are highly dependent on crop characteristics such as the level of inputs required, the perishability and need for processing, and the ease with which quality can be assessed. Many producers do in fact have only one channel to which they can sell their produce. This is not necessarily bad for the producer because they have a guaranteed market for any amount of production of acceptable quality. However, it can leave the producer in a weak bargaining position on price and vulnerable to manipulation by project authorities.

The case of coffee in Tanzania and palm oil in Thailand reveals the dangers of a buoyant or perfectly competitive capitalist market. The Tanzanian coffee trade was liberalised in the early 1990s during a period of steadily high coffee prices. Private traders flooded the market and offered coffee growers rates which compared favourably to the cooperative. Unlike the cooperative they also offered prompt payment. Most growers switched to private traders and the cooperative became dysfunctional. The private traders however had a short term perspective and did not invest in stocking sufficient inputs, or supplying these to remote areas. The productivity of coffee fell during this period and farmers were hit hard when coffee prices slumped and private traders disappeared. In Thailand, contract farming has failed because the market is too competitive and buoyant. Growers and contractors both have multiple potential business partners, products and non-agricultural income sources. These do not meet the condition of quasi-monopsony which are crucial for contract farming. Contractors fear that growers will apply inputs supplied for contract crops to non-contract crops and contract defaults are the rule rather than the exception.

Market fluctuation presents a major problem for most of the commodities grown under contract. Many are grown in special market niches that are vulnerable to international market swings and boom and bust cycles. There has been a general decline in the terms of trade for plantation crops as compared to manufactured goods. Prices are also characterised by volatility, which are in part a consequence of the difficulty of adjusting to price changes. Smallholders are likely to respond to price swings by shifting their resources into another area of production. Contractors often try to forbid this diversification but for smallholders in a volatile market it may be essential for survival. Several CDC projects have suffered because of extreme annual, or even monthly, fluctuations on the export markets.

5.3 Price formulas

The main factor in encouraging smallholders to join contract farming projects is the price the project authorities will pay for the product and a guaranteed market. This has widely been accepted as one of the best guarantors of success in a contract farming scheme. There is plenty of empirical evidence that smallholders will drop production of a crop, if at all possible, when the price falls. There are also instances where smallholders will continue to produce, despite conflicts with the management and difficult conditions, if the price paid for their crop is good, the market guaranteed and the payment prompt. Much of the success for smallholder projects depends on whether the

contractor is willing, or able to meet these requirements. A lot therefore also depends on what alternative markets are available to the smallholders and the nature of their dependency on the producer.

The price the contractor pays for a project is often dependent on quality. This can work as an incentive if the producers feel their work is rewarded; for example the Kenyan Tea Development Authority pays a bonus on high quality tea. However crop quality, consistency, and standards are often the most contentious factors in a contract. They are easy for the contractor to manipulate in order to push down the price offered for produce. For example, if the yield for a crop in a particular year is unusually high, the contractor may raise its quality standards so that it can reject those which it does not want. The company can also delay collection times for produce and then lower the price if the value of the produce decreases.

Companies cannot usually however get away with this manipulation indefinitely. The uncertainty over rejection removes the risk reducing incentive for smallholders and lessens its value. Smallholders will diversify and abandon production if they do not receive an adequate price. Companies and governments have therefore tried to counter the volatility of the market and find ways to stabilise the price. A good price formula can help in sharing the costs and benefits between producer and processor. Table 3 illustrates five of the price formula which are used in contract farming.

Table 3 Price formulas operating on smallholder projects

Price Formulas	Strengths	Weaknesses
Administered prices (government sets price for product and processor)	<ul style="list-style-type: none"> • Producer and processor protected from market risk 	<ul style="list-style-type: none"> • Government or consumer carries the market risk • Benefits may not be distributed equitably between producers and processors
Contract growing (growers price fixed, residue taken by processor)	<ul style="list-style-type: none"> • Producers protected from financial risk 	<ul style="list-style-type: none"> • Producers do not benefit from profits at times of high commodity prices • Processor may lose money at periods of low prices
Contract processing (processors price fixed, residue taken by grower)	<ul style="list-style-type: none"> • Processor protected from risk Producers retain bulk of profit at period of high prices 	<ul style="list-style-type: none"> • Producers bear total risk and may stop deliveries at periods of low prices • Processor has reduced incentive to maximise efficiency
Revenue sharing (profit distributed in agreed proportion between producer and processor)	<ul style="list-style-type: none"> • Market risk shared between producer and processor • Benefits shared between producer and processor giving each the incentive to improve efficiency 	
Free bargaining (open market system)		

Source: CDC (1989)

Many CDC projects would have failed, if there had not been some attempt by the project authorities to stabilise the price. In a number of countries, national price stabilisation funds for particular projects have been established. For example, there is a rubber fund on the Ivory Coast, and a

scheme for oil palm, copra and coffee in Papua New Guinea. Malawi has four smallholder crop authorities for tea, coffee, sugar and tobacco. These do not have individual price stabilisation schemes, but at the national level the losses of one authority tend to be balanced by the profits of another. In the absence of such schemes, farmers diversify their production base. The CDC report notes that in the long run this is the safest method of stabilising incomes and safeguarding risks.

5.4 Credit

Access to credit is one of the big incentives for smallholders in joining contract farming schemes. The credit can be given in cash, in kind, or in the advance of services or capital inputs. Loans are usually given on the security of the land or the anticipated value of the export crop. Loan recoveries are usually made from crop sales or as service charges. Sometimes the farmers obtain loans separately from an existing national credit agency or a bank, in which case the contract itself can serve as collateral. Glover (1987) has found that transnationals are increasingly reluctant to finance contract growers and have attempted to persuade state banks to assume this responsibility.

In the case of CDC projects, long term loans for capital expenditure are raised and administered by the project authority on behalf of the farmers. Some of the CDC projects administer loans to farmers directly rather than through existing credit institutions. This reduces delays and facilitates loan recoveries, but can also undermine existing credit channels. CDC often asks the government to guarantee loans. Whether direct or through national finance, institution loans are at 7% interest with a repayment period of 15–20 years and a grace period of 3–5 years. Credit is given in kind rather than cash to avert the risk that the money will be spent immediately. The record of loan repayments in CDC projects is generally good. However, compulsory or voluntary saving schemes have not worked. The general conclusion is that where there is a problem of loan recovery it stems from overly high levels of indebtedness rather than the repayment procedure adopted (CDC, 1989).

The advance of credit is a vital part of contract farming and often the only way the smallholder can enter the market. Where tree crops are cultivated, whatever the scale of operation, one function of capital is to tide the producer over the period of maturation. Debt is also more likely to be a problem for tree crops which have a long maturation period. Repayment for loans advanced by Palmindustrie on the Ivory Coast for oil palm only starts after 6 years. The longer the pre-harvest period the greater the problem usually is with repayments, because there is likely to be a difference between the projected and actual profits. These problems will be exacerbated by high and variable inflation rates which makes it difficult to determine interest rates, and changes in cost or market conditions.

There are several recurring problems with credit which appear in the empirical literature. One is that credit is only advanced for the contracted crop whereas farmers may need the money to settle non-crop expenses like school fees. This has been found to be a major complaint amongst coffee farmers in Kenya who have taken loans to finance non-coffee expenditures (Nyoro and Whittaker, 1986). The authors suggest this will happen whether it is officially sanctioned or not, so it is better to build it into the system for providing loans. Many of the comparative studies of outgrower schemes in Africa mentioned the lack of credit for food security as a major problem for the welfare of smallholders. The CDC projects also do not usually advance credit for crop diversification or for purchasing food. Most projects discourage or forbid diversification, because it reduces the throughput of the main crop and it is more difficult for projects to recover debts from the sale of other crops.

A second major problem mentioned with credit is that smallholders can be locked into a deteriorating debt situation. A grower may enter a contracting relationship and then be unable to terminate it if the company or project deducts payments and the expected benefits do not materialise. In such a situation the grower may have to stick to the same company and is effectively at their managerial mercy. The deteriorating debt situation can be exacerbated because of favourable terms offered to growers in the early stages of a project. The contractor will offer favourable terms on credit and price in order to attract competent suppliers, but may be unable or unwilling to sustain these in the long term. This is a common phenomenon and has been referred to by Glover and Kusterer (1990) as 'agribusiness normalisation'. These developments are often a problem for small farmers who have limited business experience and may not be able to understand variable interest rates. Glover and Kusterer have found that 'loan disbursements are usually made on a weekly or monthly basis at rates equivalent to a minimum subsistence wage; this can create the perception among farmers that they are receiving a wage for work performed prior to harvest, rather than a repayable loan' (1990: 130).

5.5 Financial and economic viability

The economic case for smallholders rests on three arguments: (1) small farms tend to use more labour and produce more output per unit of land than estates; (2) owners tend to use more labour and produce more per unit of land owned than tenants; (3) income inequalities tend to hinder technology diffusion, while encouraging mechanisation on estates in labour surplus countries where labour-intensive technology would be more appropriate (Tiffen and Mortimore, 1990). In general, smallholders do have a lower ratio of fixed working capital to land owned, so economic efficiency would indicate a strategy of lower purchased inputs and lower output. They have lower wage costs (due both to the ability to use family labour and ignore minimum wage legislation) and may therefore be able to compensate for lower capital intensity with higher labour intensity. A stable income is high on their list of priorities so they may avoid dependence on a single crop, and because they have a smaller proportion of fixed costs, they have a greater ability to change production when the market turns. They are however also less able to invest in upgrading their production (Tiffen and Mortimore, 1990: 75).

There are few smallholder projects which are able to sustain themselves without government or development agency support. The CDC projects which have achieved financial viability are generally those which have kept investment levels low through restricting investments to productive purposes. They have encouraged farmers to take responsibility for developing their own holdings and capital assets wherever possible. They still however rely on sharing overheads, such as roads, with other producers or the public sector. They also encourage other agencies (the government, grant agencies, banks) to take responsibility for some components of the project rather than keeping everything in the hands of a single project authority (CDC, 1989).

The accumulated evidence suggests that smallholders are not as efficient if judged only by yield per hectare. However economic efficiency is not only a matter of returns to land. Smallholders can adopt a low-input and low-output strategy and continue making a profit at prices that would not be economically viable for estates. 'Such flexibility offers the possibility of efficient resource allocation in response to the diversification of economic opportunities in the developing and urbanising economies, as well as being a form of insurance against the uncertainties inherent in world markets' (Tiffen and Mortimore, 1990: 113). Further, the political case for smallholder contract farming rests not only on efficiency, but also on equity considerations in the distribution of land and in the regional knock-on effects that smallholdings would generate.

There is mixed evidence both in relation to the relative benefits of smallholder farming compared to estates and the economic viability of contract farming in general. Many of the institutions, such as CDC, which had supported contract farming as a development activity are withdrawing their involvement in commercially unattractive projects. Tiffen and Mortimore (1990) point out the capital costs of smallholder development projects have often been ignored. A higher social and economic benefit may actually be achieved from spreading the investment around a larger number of people than concentrating it all in a few projects. They suggest that faith in smallholder projects and the simultaneous rejection of large scale ones has been too hasty. 'After the preference for large-scale production units (in Africa), the pendulum of donor support now swings to the other extreme...the reaction to past failures, however, should not be a simplistic glorification of smallholder production' (Tiffen and Mortimore, 1990). The following section will consider some of the evidence on the effect of contract farming on smallholder welfare and regional development.

6. Implications for rural development, equity and collective action

6.1 Welfare and equity

Contract farming schemes need to be assessed in a national and regional context as their effects on non-scheme farmers, towns and villages are important. What is favourable for the scheme and its participants may harm other actors and sectors of the regional economy. They can have the effect of concentrating public resources on small groups of farmers. Contract farming is often favourably compared to plantations because they do not create an ‘enclave’ effect but the evidence on this is far from conclusive. Further, participation in contracting schemes is usually one component of a growers diversification strategy and has to be evaluated as part of the whole livelihood and farming system.

This section will examine some of the evidence on the welfare and equity effects of contract farming; the extent to which it contributes to outgrower organisation; and its effect on regional development. This issue can be divided into four related questions:

- Does contract farming exclude small farmers?
- Does contract farming contribute to the welfare of its outgrowers?
- Does contract farming have a negative effect on those excluded and regional development?
- Is contract farming sustainable and can it lead to collective action and smallholder empowerment?

6.2 Does contract farming exclude small farmers?

Many critics of contract farming allege that it relies on large farmers. This is a generalisation. However, companies do often prefer large farmers because it cuts down on transaction costs and allows for a more uniform quality of product. A large number of smallholders can be costly and time consuming to organise. Some contract farmers are simply legal fronts for large companies who are trying to avoid prohibitions of land ownership. Contract farming, particularly of perennial tree crops, is also very attractive for absentee landlords as it requires a minimum of supervision and labour. Some contract farming schemes have not only excluded small farmers but had the effect of evicting tenants because these landlords have decided to plant their land with tree crops (CDC, 1989).

Glover (1984) finds that when companies deal with small farmers there are usually several factors present:

- The area most suitable for production is characterised by smallholders so the companies just work with whoever is available.
- The government may encourage firms to use smallholders. Companies will be especially willing to do so if the inclusion of smallholders provides the companies with access to credit at concessional rates from financial institutions. Smallholders also have less power to influence the government or create legal problems in case of a contractual dispute.

- Smallholders may have lower costs of production because they rely on family labour and are willing to take more risks. If they are given access to technical advice, smallholders can frequently provide high quality, labour intensive crops.

Although these factors often encourage companies to work with smallholders, the combined empirical evidence reviewed suggests that whilst contract farming does include smallholders, these are not the poorest of the poor, but the middle peasantry. Contract farming usually requires a legal title to land, which already excludes the landless and tenants. Many of the smallholders who become contractors already have some experience of cash cropping and some non-agricultural income alternatives which allow them to bear the risk of signing a contract. Further, many contract farming schemes are located in high potential areas with fertile soil and access to irrigation and transport (Goldsmith, 1985). Little and Watts (1994) surveyed 7 countries and found that contract farming occurs in areas in which commercial agriculture is already entrenched and usually involves middle and upper class peasants who already have off-farm sources of income. In Ghana and the Ivory Coast, contract farming usually appears in areas where class differences in agriculture are already based in the local social structure.

Most contract farming schemes have a fairly steep criteria for inclusion. Apart from secure title to land, these can include a minimum land size, good health, a proven ability to hire labour or enough family labour, many projects prefer a married status and sometimes even education or prior experience with the crop. The procedure for application often includes filling out long forms as well as interviews with project staff and sometimes representatives of the Ministry of Agriculture. Inclusion on a project, especially successful ones where the waiting list is long, can depend on having the right leverage or political patronage. The use of this frequently enables absentee landlords to join schemes which are designed specifically to assist smallholders. Many small farmers are accepted initially and then required to undergo training before becoming full time members. State settlement schemes with a nucleus estate, such as the rubber schemes in Indonesia, are the most likely of all the contract farming schemes to include poor farmers. The terms of the contract are however also likely to be the most prohibitive with often little leverage for the settler to push for better conditions.

6.3 Does contract farming contribute to the welfare of smallholders?

Most contract farming projects do appear to contribute to smallholder welfare and improve farmer incomes, at least in the short term. The comparative reviews of Glover and Ghee (1992); Glover and Kusterer (1990) in South East Asia, Latin America and Africa also identify a rise in incomes. The comparative review of contract farming in Sub Saharan Africa, Little and Watts (1994) note that contract farming can lead to situations of deteriorating debt, although they do not provide any case study evidence of this. Several 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. The CDC review (1989) finds that most projects offer a good opportunity for the rapid adoption of new crops and production systems. Most farmers on CDC projects have earned satisfactory cash incomes in good years. The projects have a low turn over and most have long lists of applicants who want to join the scheme. However, most of the reviews are of projects which have a sustained track period; there are many ventures which fail after a season.

The risk of contract farming and the welfare of smallholders, has to be judged from a long-term perspective. ‘Agribusiness normalisation’ referred to in Section 3, means that smallholders are often sheltered from risk in the first few years and receive large salaries. The company may be unable to sustain these, and after a few years, satisfied that the smallholders will not desert the programme,

can lower incomes. The range and reliability of income are also more likely to vary than the average increase. One of the reasons that tea, palm oil and rubber are favoured plants for smallholders is because of the regularity of income. A fluctuating income can be very risky for settlers who can be thrown off their leased land if they are not able to pay for services charged to them by the contractor, or to keep up with their debt repayments. The CDC review (1989) finds that the capital intensive methods of land development of most projects have created debt, under utilised labour and exposed farmers to risk. Further, the high incomes earned in the schemes have not led to a productive reinvestment of surpluses and women and children's nutrition is not, on the whole, any improved and in some cases it has deteriorated. The welfare effect of increased income therefore has to be balanced against continuing debt of outgrowers and the frequent need to purchase food. It is clear that for most contract farmers in Africa, non-farm income continues to be critical to their livelihood strategy.

A question that often emerges in the consideration of the welfare effects of contract farming, is the extent to which it displaces food production and its effect on food and nutrition. Glover and Kusterer (1990) conclude the indirect evidence suggests that 'nutrition among outgrower families is more likely to have improved than deteriorated because: household incomes have increased; contract crops have primarily displaced land and labour previously used on other cash crops rather than on subsistence food crops; women's indirect incomes have not been lowered as men's incomes have risen' (1990: 150). They also argue it is possible that nutrition levels have risen amongst the poorest of the poor because annual incomes have risen through increased employment on smallholder land. These conclusions are however much disputed, and Glover and Kusterer (1990) themselves acknowledge that food security can be a problem. Little and Watts (1994) identifies the frequent insistence of contractors on monocropping as one of the biggest problems. On some projects there is insufficient land for food and livestock are banned. Smallholders usually diversify with food crops regardless of restrictions, although the Ghana Oil Palm Company has gone so far as to destroy food crops.

6.4 Does contract farming contribute towards equity amongst smallholders?

Contract farming not only tends to exclude smaller farmers but there is considerable differentiation amongst smallholders under contract. The difference is often between the rich capitalist farmer who employs labour and substantial middle peasantry who may earn an investible surplus but depend largely on household labour. For instance, in the Malawi Tea Authority, 10% of smallholders reap 41% of the revenue. In the Kenya sugar, tea and tobacco parastatals 10–15% of the growers account for almost half of total output. Ellman (1986) has found that across the smallholder sector in PNG, some smallholders are getting larger as a few families emerge to become the progressive farmers in each village. However, these bigger growers are not squeezing out smaller ones but taking up fallow and uncleared land. In other relatively egalitarian areas, contract farming has contributed to inequalities as less progressive farmers are forced to rent or sell to more progressive ones (Goldsmith, 1985).

Glover and Kusterer (1990) find that contract farming is as likely to prevent social differentiation as it is to promote it. The reason for this is that contract farming can act as a leveller by reducing risks, creating access to inputs, technology and markets. These are usually the factors that only large farmers have access to and are therefore able to exploit. Larger families still do better where the new crop is technology dependent, although smaller farmers can reduce this difference by producing high quality produce through labour intensity. They concede that over the long term, with no government intervention, the differential between large and small farmers will grow. Small farmers will use a larger proportion of their income in basic needs, whilst larger growers can invest in productivity enhancing technology. 'Nevertheless contract farming appears to be the most slowly

differentiating route yet known for the transition from traditional local market agriculture to highly commercial capitalist agriculture' (Glover and Kusterer, 1990: 140). In many instances this process has been helped by a concerted government effort. For example, the outgrowers of Mumias – the sugar company in Kenya – own their land and are not subject to the possibility of eviction. Central control has helped to restrain the emergence of economic inequality amongst smallholders by preventing opportunities for the wealthier or more progressive farmers to gain control over the production procedure or to reinvest their profits locally.

6.5 Regional development and those excluded from contract farming

Does contract farming contribute to regional development? How does it affect those who are not included in contract farming schemes? Are contract farming schemes an efficient use of public resources? Governments often favour contract farming in the hope that it will produce spillover effects or backward and forward linkages with the local economy. In this respect, a comparison is frequently made between the beneficial effects of contract farming and plantations that are well known for creating enclaves. However, the empirical evidence on these issues is varied and mixed, and much of the earlier condemnation of plantations is being re-examined (Tiffen and Mortimore, 1990). At the national and regional level, public support for contract farming appears to have led to the concentration of public resources. A heavy input of public resources characterises all the renowned contract farming schemes such as the Kenyan Tea Development Authority and FELDA in Malaysia, and Palmindustrie on the Ivory Coast. Many of the choices of location are not just ecological but political, and the beneficiaries are often not the poorest of the poor. On occasions, smallholders are actually displaced from their land in order to make room for settlement projects.

The evidence of the linkages created by smallholder programs is mixed. Tiffen and Mortimore (1990) argue that plantations can in theory create more regional development by providing employment to the landless both on estates and in processing factories. Glover and Kusterer (1990) have found that smallholders tend to invest in education and household capital, which does not create a large knock on effect. The evidence on employment creation from smallholder production is mixed and crop specific. Contract farming schemes do generate much employment in part because the crops are labour intensive and the hiring of labour by contract growers to deal with seasonal work is common. In Malawi, 80% of contracted tea growers employ labour and on the Ivory Coast 89% of contract farmers employ labour. Contract farming schemes have encouraged high rates of migration: Ugandans and Rwandans in Kenya; Malian and Burkinabe on the Ivory Coast and Mozambicans in Malawi (Little and Watts, 1994: 225). Most of this employment is on the farm and some is in support services like processing and transport. It is generally agreed that when smallholders do employ labour they pay amongst the poorest rates.

There is also considerable controversy about the food security of labourers on smallholder land; a subject not covered by the otherwise broad study IFPRI conducted on the effect of contract farming on nutrition. Little and Watts (1994) suggest that there is evidence at the regional level which links food insecurity to contracting, and that food prices in contract farming areas are frequently amongst the highest. The overall regional impact is however much disputed. Glover and Kusterer maintain, with some evidence, that 'contract farming per se does not lead to enclave development' (1990: 154). Little and Watts (1994), also with some evidence, argue that 'like plantation based economies, contract farming schemes rely on external inputs and markets and do not maintain strong linkages to the regional economy, except with labour markets' (1994: 226).

6.6 Collective action and farmer organisations

Little and Watts (1994) have observed that the contract is a site both for subordination and resistance. Considerable attention has been paid to whether or not contract farming encourages collective action amongst smallholders and whether this can improve conditions and lead to more general local development. Contract farming does have some elements which it seems would encourage collective action; many smallholders, a common adversary, a degree of interdependence and the contract, a tangible and common issue for negotiation. Glover (1983) has suggested that crop characteristics determine not only production systems, but also the political interaction between the cultivators and non-cultivators. For example, he suggested the plantation system would lead to trade union activity because their position as wage labourers determines their goal, which is higher wages, and the sanction they can impose to achieve it, which is the strike. Coffee is associated with migratory labour and revolutionary nationalism, and rice with irrigated sharecropping and revolutionary socialism.

Many of the instances mentioned of outgrower resistance and manipulation of the terms of the contract are not collective but individual acts. In fact some of these acts, such as the use of personal and patronage ties to have produce upgraded, actually work against collective action. Others are simply individual ways to gain a larger share that would not work collectively, for example, adding stones to increase the weight of a produce or selling the produce on the open market.

The record for collective action with contract farming is mixed although it does appear to hold potential for the development of farmers organisations. Glover (1987) has isolated those elements of the contract situation which hinder a political response and those which favour collective action.

6.7 Factors which hinder a collective response from contract farmers

- Heterogeneity among growers either in ethnic or economic composition. For example, outgrowers can vary between absentee landlords and full-time smallholders. Absentee landlords may turn their farms over to the contracting company and be quite content to escape land expropriation under agrarian land laws. They may not be particularly concerned about the product price and have little in common with fully profit-oriented smallholders.
- Another conflict may be one between simple producers and ones who have access to multiple markets. The latter can take advantage of the simple producers and may have no interest in reforms designed to improve the market access of simple producers. They also have no interest in stabilising prices because they derive their margins from these fluctuations. Although the interests of the larger growers may diverge from those of the simple producers, it is very difficult to exclude them from growers associations.
- The contracting relationship often encourages the cultivation of individual self-interest even if growers do understand there may be long term benefits of acting collectively. No contract is perfectly contingent, and many offer individual incentives to growers which encourages them to cultivate cordial relations with the management.

6.8 Factors which encourage collective action amongst contract farmers

Homogeneity, both in ethnic background and in economic status, encourages collective action. Sometimes, when there are many smallholders, the company will itself organise some form of

organisation or cooperative to coordinate production. Whether or not this group restricts itself to a simple coordination function or starts to lobby for better conditions depends on the extent to which the company is perceived as a common adversary and the relative dependencies of the growers on the company.

There are plenty of examples of farmers organisations which have been established by the contractor as an intermediary, and as a way to coordinate production procedures amongst numerous dispersed smallholders. Instances of collective action amongst them to improve the terms of their contract are more difficult to find. In the final analysis, the balance between the contractor and the grower depends largely, on the State and the support it extends to smallholders. For example, a large part of the reason the Kenyan Tea Development Authority gives such favourable terms to the outgrowers is the political activism and population density of the people in the area, and the need for the government to win their support.

Daddieh (1994) has contrasted collective action amongst oil palm outgrowers in Ghana and the Ivory Coast. In Ghana, farmers were evicted from their land to enable the establishment of a large oil palm nucleus estate. Some of the land, in relatively equal parcels, was then given back to the farmers who became contracted outgrowers. These outgrowers have formed a Farmers Organisation which has been very successful in pushing the state for better terms and services. Daddieh considers the two crucial factors of their success to be due to: (1) the homogeneity of the outgrowers and their comparable economic status; (2) the need for the state to compensate those evicted from the land and demonstrate public support for small peasants.

Collective action on the Ivory Coast has, by contrast, not succeeded at all although it has many of the same features as the Oil Palm Project in Ghana. Palmindustrie is a nucleus estate with contracted outgrowers established and managed by the state. Like the project in Ghana, it provides extension, credit and inputs to its outgrowers and processes the produce. The management style adopted by Palmindustrie is characterised by tight regulations and supervision and there is no participation of farmers organisations or representatives. The lack of collective action can, in part, be explained by the heterogeneity of the contracted workers. Further, the Ivory Coast with its highly capitalised economy under centralised control has been wary of any local organisation and was at a time, worried that Palmindustrie was becoming *un etat dans un etat* and clamped down accordingly. The tight control the state has over its outgrowers means there is a fair amount of resentment but this is expressed through individual acts of resistance such as failing to maintain oil palm and selling on the open market.

Contract farming, because it involves negotiation, does appear to present an ideal opportunity for the emergence of farmers organisations. In a review of 12 case studies of contract farming in Latin America, Goldsmith (1985) found that pre-existing grassroots groups, the church and farmers organisations frequently used the processor, working with groups of farmers and negotiating acceptable terms for both sides (as a catalyst in linking companies with local farmers. These later served as a contracting agency for Goldsmith, 1985). The importance of outgrower participation in the management of contract farming and in ensuring the sustainability of the project is underscored by the CDC (1989). The review found that farmers wanted, but were unable to participate in the management of the projects. Most of the projects are centralised and hierarchical and often managed by expatriates. Most projects are planned without a clear understanding of farmers needs and with only limited consultation with farmers. The review concludes that technical achievements of the project and the contribution it has made to farmer income are so far enough to avoid dissent, but this will not be sustainable in the future.

7. Some country evidence and case studies

This section will examine some national policies on outgrower schemes (their possible contradictions) and some case study evidence on successful schemes. Most contract farming and outgrower schemes have both private and public sector involvement, although the public sector tends to be more involved in the latter. It is likely that public sector involvement, whether in direct management or in supportive policy, will be necessary if outgrower and/or contract farming schemes are extended to tree farming. For example, transnationals, as well as ‘development’ organisations like CDC are reluctant to invest in projects that have a slow maturation period or to finance contract growers themselves. State development banks have taken on part of this role but for this they need to formulate means of enforcing loan repayments; appropriate interest rates and compensation for assuming financial risk. The role the government will play is of course dependent on the specific configuration of power within the country. ‘Insofar as most contracts in African agriculture are mediated by state sponsorship – through actual state investment in processing plants, expropriation of land for use by transnational corporations, setting of prices, enforcement of contracts, and recruitment of labour and smallholders or simply by the state’s agreeing to provide such basic needs as roads, schools, clinics, and housing in order to make contracting more attractive – the state becomes enmeshed in the social relations of production. In so doing, the state becomes more than an impartial mediator: ‘it becomes an important battleground for competing interests in the contracting arrangements’ (Daddieh, 1994: 190). It is probable that agribusiness companies will have greater political influence than growers, and that governments may not even have much choice in how they deal with the problem of smallholder welfare. However, there is evidence that some governments have intervened on behalf of smallholders through for example, price stabilisation, guaranteeing debts or trying to obtain better contract conditions and services for smallholders.

7.1 National policies

As Section 1 indicated, smallholder schemes are attractive to many governments because it appears to provide an avenue whereby small farmers can enter commodity production on favourable financial terms. It also provides a useful mechanism for a variety of explicit and implicit political objectives such as earning foreign exchange, moving populations to new settlements, redistributing land and gaining the political support of the middle peasantry. Most national governments became involved in smallholder schemes and/or in taking over plantations after Independence. In almost all countries where there had been plantations, governments are using tax incentives and credit facilities to influence the plantation sector in line with development objectives. The most common form of public sector support for contract farming manifests itself in a ‘nucleus estate’ which encourages the expansion of smallholders around it. In some cases, the plantation itself provides finance training and technology. For example, the United Planters Association of India has a joint program with the Tea Board of India to assist smallholders. In Indonesia, the Nucleus Estates Smallholders Program has made the market for palm oil and tea accessible to smallholders. In the Ivory Coast, smallholdings – called ‘Plantations Villageoises’ – are expanding around the large industrial complexes created by government for the exploitation of rubber and palm oil. National policies have also tried to diversify, at a national level, in order to break monocrop dependence and to make contract crops less risk intensive for smallholders. The Philippines, for example, introduced more crops such as coffee, banana, and pineapple to break dependence on sugar. In Malaysia during the 1960–70s there was a shift from rubber towards palm-oil, although rubber recovered its leading role in the 1980s when it was decided the competitive position of synthetic rubber would not decline (Muralt and Sajhau, 1987). Most smallholder programs have government support; the case studies below will examine different policy approaches and the reasons for their success and failure.

7.2 The Kenyan Tea Development Authority

Kenya has a large plantation sector co-existing with the largest and most effective smallholder sector in Africa. The Kenyan example is interesting to consider for this reason. It has an extremely high rate of population growth (over 4% a year) and is fast approaching a land frontier with alarming levels of poverty, underemployment and malnutrition. Labour is in surplus and will continue to increase with population growth in the absence of alternative sources of non-agricultural employment. By the mid-1980s more than 230,000 households were involved in the contract production of tea, sugar, oilseeds, tobacco and horticulture. About 15.5% of all Kenyan smallholders produce under contract accounting for 40% of tea, 50% of sugarcane, and 80% of tobacco production. The centre of the contract system, and the most renowned part of it is the sugar and tea sectors, both dominated by large parastatals. Tea was first planted in the 1920s on plantations. Since then the tea output has increased by 700% with a large part of it smallholder contribution. For the last three decades this growth has been steered by KTDA which was established in 1964. (CDC, 1989).

The development of contract farming, and the implications for the replication of this development have to be understood in the political history of Kenya. The white settler class which ruled the Kenyan colony, had secured the legislative right to ban peasant production of export crops and to confine Kenyan peasants to crown reserves. The imposition of regulations on production and the expulsion of tenants led to the Mau Mau rebellion in the early 1950s. This was in effect a political emergency and the colonial state targeted tea and pineapple as peasant crops, and after Independence in 1963, the expansion of peasant commodity production. The expansion of tea, coffee, sugar and tobacco was overseen by the state, and later CDC and the World Bank. Watts (1990) argues that the expansion of smallholder tea production is best understood by examining the political motives that underscored it. 'In this sense, it is no surprise that in the case of tea, the contract crop par excellence, more than half of smallholder production was located in the Central Province, the overcrowded reserve that both spawned the nationalist revolt against the British and provided the political bedrock of the Kenyatta regime in the postcolonial era' (Watts, 1990: 48).

KTDA was set up in 1964 by the Government of Kenya, the CDC, OPEC and the EEC. In two decades, KTDA organised the planting of more than 57,000 hectares of tea by 151,000 smallholders. The smallholder sector accounts for 45% of annual tea exports, 87–90% of which is Grade I tea which commands premium prices in the world market. The success of KTDA has been attributed to effective control at all levels of the operation: the quality of planting material through control of nurseries; the quality of production through selective registration; the effectiveness of extension; the supervision of leaf quality; and critically, through the exercise of a buying monopoly. The KTDA has tried to restrict the average holding of its outgrowers to one hectare to ensure that plucking standards are maintained. This has contributed to the quality of smallholder tea which is consistently of a higher standard than estate tea. Farmers are registered and guaranteed purchase of output as well as technical assistance and credit. Payments to the growers are made throughout the year; one for quantity and another from the bonus received from quality. This provides an incentive for the outgrowers to maintain good management of their tea. Farmers are represented in policy-making and 8% of registered farmers are shareholders in tea factories.

The reasons for KTDA success have been attributed to state support for the scheme, quality checks and incentives for quality tea, and a management structure which allows for farmer participation. Further, tea has been called the ultimate smallholder crop because it is labour intensive, requires labour throughout the year, and provides a regular income. Little and Watts (1994) have pointed out the success of KTDA cannot be explained by the role of any particular sector but by the particular constellation in which they operate. Contract growing involves a government parastatal which is responsible for marketing and input distribution; and a management and ownership structure which

includes the government, donors, transnational capital and an extension system combining government and private support.

Some observers have argued there are particular reasons for the success of KTDA which are not replicable, and further, the extent to which it is a success is debatable and has to be evaluated in a regional context. On the first issue, observers point out that KTDA benefited from exceptionally favourable ecological conditions for tea, a high degree of external autonomy, and the political influence of the growers. Tea exports were not subject to tax until 1982 and no price stabilisation was attempted so the benefits of rising world prices went directly to the producers (Tiffen and Mortimore, 1990). On the second issue – the success of KTDA – observers point out the tea yield from smallholders is much lower than that produced from estates and the agronomic standards are highly uneven between farms. There has been an uneven flow of tea to factories; inputs have not been supplied on time; and fertiliser applications have been uneven. Further, extension staff seconded from the MOA are under motivated because they receive lower salaries than KTDA.

More serious than the above is the claim that KTDA has concentrated resources in one area and concentrated on relatively prosperous smallholders. The income effects for the Kenyan tea smallholder are positive with above average standards of living in a normal year. The KTDA has drawn heavily on government resources and imposes direct costs on the government for salaries, which are not recovered from the tea growers. They are also able to draw on the best extension staff. Further, smallholder cash crop production may not be the best option for the rural poor. First, they cannot join if they do not have enough resources of land and secondly, the wages paid by smallholders are amongst the lowest in Kenya. Some commentators have pointed out that plantations are actually better for the rural poor because they are more productive and therefore more labour intensive.

7.3 Ghana and Ivory Coast (Daddieh, 1994 and CDC, 1989)

Contract farming of oil palm in the Ivory Coast and Ghana provides an interesting comparative study. Both the Ivory Coast and Ghana had a tradition of oil palm production and a growing gap between internal demand and supply at the time of Independence. The two countries both had an interest in the potential contribution of the projects to their post-Independence import-substitution. Both states have a political agenda with smallholders and both brokered the relationship between agribusiness and smallholders. In both states, the organisational model chosen was the nucleus-estate smallholder combination. However, the comparison reveals the extent to which the terms of the contract and smallholder collective action are dependent on the political space given by the state.

The development of the modern oil palm industry in the Ivory Coast started in 1963. The Plan Palmier outlined a program for the establishment of state owned nucleus estates (plantations agroindustrielles) and land belonging to contracted smallholders (plantations villageoises). Funds provided by the World Bank and the European Development Fund played an important role in enabling the implementation of the plan. The state released forest reserves established by the colonial estate for the new plantations and created a land tenure system whereby anyone working the land could have title to it. This land tenure system was enforced by traditional elites and government institutions. By 1984 the estates, operated by the parastatal Palmindustrie, constituted 60.3% of the area devoted to oil palm production and 39.7% was constituted by contracted smallholders. Intercropping was prohibited. Peasant producers were offered government subsidies, cash advances and good prices, which reflected the high prices for palm oil in the world market during the 1960s and 1970s. Contracted smallholders were also given a six-year grace period before they had to begin repayment of their debts so participation in the scheme did not require a cash outlay. The average size of smallholding is 4.41 hectares and smallholders must be able to show that the land is commensurate with their labour power and management skills. Security against

smallholder default and continuity in oil palm production, are secured through a provision which ties heirs to the loan obligations of the contracted farmer. This was made possible for many by the government policy on immigration that ensured a flow of cheap labour from the Sahel in particular.

The Ghanaian State only started the full-scale promotion of oil palm production in the 1970s. The scheme was supported by a loan from the International Development Association in 1975. The Ghanaian state had to expropriate land owned by village communities and peasant families and thereby incurred considerable legal delays, local animosity and compensation bills. By the end of 1990, the nucleus estates and smallholders were producing equal amounts with 1,150 contracted smallholders. The contracted growers are tenants and the land is leased to them for the sole purpose of producing palm oil. Most of the tenants are families who have lost land to the GOPDC nucleus estate. They do not include a significant number of elites in the scheme. The tenants clear the land, plant the palm oil, and manage their plantations according to strict rules and time lines set by GOPDC. The latter supplies technical assistance, the necessary inputs and marketing services at a cost which is deducted from the sales. The cultivation of food crops is prohibited. The contract specifies the smallholder must be married and have children (originally set at 7) for cultivation which also provides generational continuity.

Despite the similarities in background and production, the politics of the contract differ radically. Contracting in the Ivory Coast was intended to provide the means for rapid state accumulation of capital. The central bone of contention between the smallholders and the Palminindustrie was price. In Ghana the point of conflict between GOPDC and local people was land. The Ghanaian government had an immediate need to stabilise the industry and prevent any further antagonism caused by the expropriation of land. GOPDC therefore allotted equal plots of land to contracted growers and provided favourable producer prices. The policy in the Ivory Coast of allowing producers to cultivate as much oil palm as their assets and labour can manage has fostered the creation of a class formation amongst contracted smallholders in the Ivory Coast. In Ghana by contrast, the equal plots of land and the political agenda of GOPDC – targeting evacuated peasants – has prohibited radical differentiation. In both countries the prohibition on growing food crops is a major problem and a great source of smallholder dissatisfaction.

These policies explain the development of the contract and the reaction of the contracted smallholders in both countries to deteriorating terms of trade. In the Ivory Coast, peasant resistance took highly individual forms, the diversion of palm nuts to the open market, neglecting trees and not replanting which has led to the under utilisation of plant capacity. These individual responses have not been effective in changing the producer price structure. In Ghana, the smallholders have formed an association known as SHAK which has emerged as a voice for the smallholders dealing with a number of issues including production related matters such as the need for seedlings, timely collection and proper weighing. The issue of food availability and services such as methods of transporting food has also been successfully taken up by SHAK.

7.4 Contract farming and outgrower schemes in Southeast Asia³

Thailand (Manarungsan and Suwanjindar, 1992).

Thailand has extensive experience of contract farming with the highest degree of private sector involvement and foreign direct investment. Contract farming has been a central component of the government development plan and its strategy of integrated agricultural development generated through the private sector. The contract farming model used, is one in which private firms supply

³ These case studies draw on Manarungsan and Suwanjindar, 1992; Ghee and Dorral, 1992; Dillon, 1992; Tiffen and Mortimore, 1990; CDC, 1989; and Goldthorpe, 1995.

farmers with inputs, credit and technical assistance and purchase the farmers outputs. The major role played by private firms in contract farming, is largely due to a credit extension policy that requires commercial banks to extend 20% of their total deposits in rural credits. Commercial banks have preferred to do this through contract farming as opposed to direct loans to smallholders as this reduces the credit risk.

The proliferation of contract farming is part of a larger national agrarian restructuring which has shifted Thai agriculture from its traditional dependence upon primary commodities to an integrated agro-food system (Little and Watts, 1994). However, contract farming has not done very well in Thailand. Public outgrower schemes have never been attempted which reflects Thai agricultural policy of introducing policies that affect the agricultural sector (such as the rule on credit) without intervening directly. Most private contract farming schemes have failed. In some cases early successes in contract forestry were not sustained as firms switched from artificially supported terms designed to attract growers to more realistic terms. But the failure of contract farming in Thailand is better explained by the competitive market. The growers and contractors both have multiple potential business partners, products and non-agricultural income sources. These do not meet the condition of quasi-monopsony which appears crucial for contract farming (Glover and Ghee, 1992). Contractors fear that growers will apply inputs supplied for contract crops to non-contract crops and contract defaults are the rule rather than the exception. Growers can survive in fluctuating markets by shifting to new buyers or products and capitalising on short term export opportunities. Farmers invest revenue from boom periods in new crops or non-agricultural activities, including real estate, and are able to survive in this way.

The preferred mechanism for both Thai contractors and growers to cope in this fast market is the *quotaman*. This is an intermediary who is able, through personal contacts, to provide access to small producers when necessary without the formality of a contract. Companies can diversify their sources of supply and rely on several *quotamen* to spread their risks. *Quotamen* are also better able to judge a growers creditworthiness and their margins are not cut by tax. Contract farming in Thailand has failed because the success of the agricultural sector in Thailand.

Malaysia

The Malaysian experience of contract farming is characterised by heavy public sector involvement in land settlement-outgrower schemes and reliance on traditional tree crop exports like rubber and palm oil. The responsible public sector body is the Malaysian Federal Land Development Authority (FELDA), established in 1956. The Malaysian case is interesting because it has had a long experience with outgrower schemes; many schemes are now in the second crop cycle and second generation of farmers. FELDA has set up 442 schemes, covering 714,945 hectares and involving more than 100,000 families. The schemes were designed to settle new lands and to produce a prosperous export-oriented Malay peasantry. Ghee and Dorral (1992) have evaluated the schemes as successful, with a notable success in increasing farmer incomes, long waiting lists of applicants, and an annual economic return of 20%. The yields which have been achieved on FELDA schemes are impressive; they match those of plantations for rubber and in the case of oil palm exceed those of outgrowers by 30–300% (Tiffen and Mortimore, 1990).

The contract system itself is very complex and still in a state of development. The settlers are allocated 4 hectares of land to manage which are situated in a larger management block. The system in the 1960s was that settlers were given title to land but a minimum of institutional support and inputs. This system led to poor husbandry and was changed a decade later to a system whereby settlers were assigned to blocks for cooperative work. The settlers arrive 18 months after planting and are allocated 4 hectares each, arranged in blocks of 100 for cooperative work. These plots are managed under the supervision of a field assistant and are worked in a regimented way under his control. On maturity, the holdings

become the responsibility of individuals and the field assistant becomes an extension worker. The growers receive title to the land once they have repaid their debt. It was thought that peer pressure would induce the settlers to work, but absenteeism and subcontracting to illegal Indonesian workers became a problem. The latest system under consideration is one of share ownership instead of land ownership.

The scheme has been broadly successful in attracting a large settler community and being able to provide them with stable and adequate incomes. However, the positive performance of the scheme has to be qualified to appreciate its full development implications. The most significant obstacle to the replication of FELDA is its high cost to the government. The settlers incur heavy debts to finance the costs and repayment rates are good mainly because monthly loan instalments are debited 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. This in itself is not bad. However, there are some concerns that outgrower schemes limit the flexibility of supply response to price changes, although in FELDA schemes, this is somewhat mitigated by the use of immigrant workers who are laid off when prices are low. A more pressing concern is over the selection criteria used to recruit FELDA growers. There has been much criticism that the scheme tends to favour prosperous farmers of Malay origin through the stipulation that half the schemes growers must come from the state in which the scheme is situated. Few schemes have been started in states that are very poor. Further, FELDA schemes have little participation from local growers and efforts to start organisations have all been initiated by FELDA management.

7.5 The case studies compared

The comparison between the countries is useful because it raises the question of appropriateness and replicability of different schemes. It also illustrates the importance of government support for smallholder programs and how the nature of this support affects the smallholders ability to negotiate favourable contracts. The comparisons also show ‘the role of contract farming and outgrower schemes must be seen in a long run context. They are not ends in themselves, but means to achieve goals such as resettlement, poverty alleviation and product efficiency’ (Glover and Ghee, 1992). The Thai experience suggests that contract farming is not a suitable rural development strategy because the volatility and competitiveness of Thai markets are not conducive to such a system. Thai farmers are able to acquire credits, inputs and buyers on the open market. Technical assistance and market information is more difficult to obtain in volatile markets and places small farmers at a disadvantage with quotamen. However, the solution to this can be direct government intervention on these issues and does not need to be the quota system. FELDA and Palmindustrie have played a central role in resettling populations, providing them with a good income and earning foreign exchange. FELDA has achieved an impressive level of income; has long lists of prospective entrants; and Malaysian palm oil and rubber remain competitive in world markets. KTDA and GOPDC have contributed to the smallholder welfare. KTDA in particular has contributed to the sustained and regular income of its smallholders and GOPDC has managed to develop with a fairly egalitarian structure of smallholders.

Glover (1987) has pointed out that contract farming is not a zero-sum game and that there are some general trade-offs which exist for government policy makers with respect to contract farming. Conflicts can arise over different welfare goals; providing income and employment for farmers, stabilising prices for consumers and ensuring that contract production does not contribute to food insecurity. Contract farming for smallholders may be more successful in areas in which technology is not undergoing rapid change because smallholders will find it more difficult than larger ones to adapt to technological change. This however, has consequences for the celebrated advantage of contract farming as a way to transfer technology to smallholders. Similarly the availability of alternatives is one of the main preconditions for devising a contract farming system that benefits smallholders. However farmers who

have many alternatives are generally the more prosperous ones, so this precondition would neglect many small farmers. Policy also has to make trade-offs in the determination of price, which makes it difficult to arrive at a formula that will maximise the long-term benefit to growers. A high producer price may drive the firm out of business and attract inefficient growers, whereas a low one will attract only the most efficient growers and exclude those who need some assistance. It is also very difficult for governments to police contracts even if a suitable price is agreed on because of the number of variables involved. The company can manipulate quality standards, raise the price it charges for inputs or delay payments for produce (Glover, 1987).

The critical question for all these schemes is the extent to which they are replicable and the spin-off effects they have for rural development. All the schemes were funded by a large investment from international capital as well as a large and sustained public sector outlay. In Malaysia, the Ivory Coast, Kenya and Ghana this has led to the concentration of resources in one area. In all the countries the schemes have also tried to build a relationship between the middle peasantry and the state. The evidence of the income of smallholders is positive, but there is a danger the concentration of capital in one area is not the most efficient way to assist rural development. As a public sector project for development is may not be optimal. Contract farming also encounters some problems when considered in terms of its financial sustainability. The record of contract farming suggests that market instability and management problems frequently make contracting schemes unsustainable in the long run. The hierarchical organisation of the schemes is another factor that may inhibit long run sustainability. Schemes with top-down organisations and limited farmer participation are liable to run into problems of producer withdrawal, illegal activities, and general producer-management tensions.

8. Tentative conclusions for tree contract farming schemes

8.1 Introduction

Development agencies such as the World Bank and USAID have been enthusiastic in their support for contract farming in the 1990s as a way to promote smallholder development. However as Glover, (1987) suggests, ‘there have been few rigorous empirical studies that would justify contract farming as the panacea some claim it to be. Insufficient attention has been paid to the possible problems contract farming may pose for smallholders or to its possible limitations’.

- Most of the comparative studies reviewed find that in the short term, contract farming contributes to smallholder income. However, these gains have to be offset by income spent on food and labour, and often unsustainable levels of risk.
- Contract farming, apart from indirectly through employment, does not benefit the poorest part of the rural population. Most of the studies have classified smallholders as the ‘middle peasantry’, although there is considerable differentiation between smallholders. Contract farming often attracts absentee landlords and large farmers who use it as a cover to prevent their land being expropriated by land reform laws.
- Smallholders have benefited from the transfer of technology through contract farming. However the technology can include standardised procedures for production. These are easy for the contractor to regulate but do not necessarily build on the knowledge smallholders have of their environment.
- Contract farming can contribute to smallholder empowerment and collective action. However, the function of most farmers organisations that have emerged within contract farming schemes is to regulate smallholder production. With some notable exceptions, these do not present a forum within which smallholders can fight for better conditions or more control over management. Contract farming can lead to individual empowerment through developing an understanding of contract negotiation, the market and accounting.
- The more fundamental limitations of contract farming lie in the concentration of public resources; market volatility; and the displacement of food cultivation. There is considerable uncertainty over whether smallholders induce regional development, and whether they compare favourably in this respect with plantations.
- All the reports and comparative studies place great emphasis on maintaining a diversity of production in the farming system and on developing other income earning strategies.

Contract farming schemes usually include multiple actors with different objectives, which makes them difficult to evaluate. Commercial schemes often have public sector support as development projects. Public sector projects are often run by the private sector with commercial viability as a primary objective. The lesson that can be drawn for tree farming is the importance of clarity on objectives and on the role that different institutional actors can play in promoting these objectives. Contract farming is not a ‘panacea’ but evaluated on a case by case basis it is a feasible development strategy. As Glover (1987) has revealed in his comparative reviews, contract farming is not a ‘zero-sum’ game and each case has to be judged against possible alternatives, costs and benefits. This section will draw some very tentative conclusions on these trade-offs and the lessons that can be drawn for tree farming from the experience of agricultural tree crops.

8.2 Trees in contract farming

Tree contract farming, in contrast to farm forestry and social forestry, has attracted little attention as a development strategy in practice or in the literature. Perhaps part of the reason for this is the polarisation between the 'welfare' and the 'forestry' approach to farm trees (Arnold and Dewees, 1997). Arnold has argued it is important not to pursue tree growing as primarily a poverty alleviation or environmental measure. 'With their restricted focus on particular needs and products, they tended to obscure the dynamics of farmers economic responses to changes in demand and supply and to scarcity and abundance' (Arnold, 1997: 2720). An evaluation of tree contract farming as a development strategy would have to explore these dynamics and consider how and when farmers would benefit growing trees under contract.

Forest industries in many parts of the world already draw a large part of their wood and fibre from small growers although these arrangements have attracted limited attention in the development literature. As with contract farming in agricultural tree-crops, industry-small grower linkages in developing countries can take several forms: (1) companies work through intermediaries; (2) growers take initiative and create a cooperative or marketing channel; (3) companies contract land from farmers on which to grow trees; (4) others obtain supplies from nearby farmers who are linked to the company as 'outgrowers' (Arnold, 1997). In India the match and veneer industry, often with finance from NABARD, receive most of their raw material from tree outgrowers. Two other long-running and generally successful schemes are the Agroforestry Tree Farming program of the Paper Industries Corporation of the Philippines (PICOP) and the tree-outgrower schemes in KwaZulu-Natal.

The attraction of tree contract farming, summarised in the following extract, is identical to those of all the crops reviewed in this paper. 'These schemes inject capital into marginal areas and provide farmers with timely and appropriate inputs, professional advice, an assured market and local employment spin-offs. In return, the timber companies gain free access to land close to the mills. Responsibility for labour management and certain production risks are delegated to the farmers, the risk of expropriation of land is reduced and the public image of the companies is enhanced' (Arnold and Dewees, 1997: 12). The extract above is a description of an ideal contract. The incentives for industry are fairly obvious; tree contract farming becomes attractive to industries when it can supply wood at a lower cost than alternatives. The factors that would motivate smallholders to participate in a contract farming project, and the circumstances in which this would have a more widely positive developmental effect, are more complex.

8.3 Why farmers grow trees

The need to understand the type of smallholder situation where tree growing is appropriate is thus very important. An assessment of the broader impacts of tree planting will also need to consider how households with different endowments of labour, land and capital benefit. It has been argued that tree contract farming is more likely to be appropriate for those smallholders who can meet their basic income needs from other sources. Poor households that commit themselves to tree crops as their major source of income are likely to have severe cash flow problems between tree harvests. Therefore if they were to join a contract farming scheme, it is likely that they would be heavily dependent on credit. The tendency for farm forestry to benefit rich, often absentee farmers, has been well researched (Saxena, 1994). The question which remains to be researched is whether the contract, through supplying credit, extension, and a market, could enable smaller farmers to overcome such constraints to tree farming.

Trees also do not make use of the typical comparative advantage of poor families which is labour intensity. Tea is often described as the ideal smallholder crop because it is labour intensive and provides a regular income throughout the year. Tree crops, like cocoa, rubber and palm oil, have a long

gestation period and are not labour intensive. Tree contract farming is also likely to be more suitable for farmers who have access to land which is not needed for crop production or other basic needs. When trees displace other crops the smallholder runs the risk of becoming more narrowly focused and less flexible in response to changes in the market and scarcities. Therefore, tree farming is likely to be attractive to smallholders who have a limited labour resource and are able to use land that would otherwise be under-utilised. This is especially true when steady prices, an assured market, and access to technical advice and inputs make tree crops a more stable source of income and/or more profitable than alternative uses of the land (Arnold, 1997: 12).

The factors above all favour the typical land, labour and capital endowments of larger smallholders. This coincides with the existing reviews of tree contract farming which have found they have not reached the very poor. The policy conclusions are that limitations are accepted and they are not used as a way to reach the very poor. Arnold has commented of tree contract farming that the requisites of success are such 'that they are unlikely to be appropriate for those with very little land or no land at all; 'trying forcibly to fit them into such situations could well be counter-productive' (1997: 13). The other policy conclusion is to support the poor by providing security of tenure, settlements, and supporting policy. This is in effect what FELDA and GOPDC have done, although not for the very poor. However this needs to be considered in terms of broader trade-offs and opportunity costs as well as political feasibility.

8.4 The policy environment and role of different institutions

One of the principal conclusions to be drawn from the experience of agricultural tree crops is the importance of public sector support for smallholder projects. Many of the international development agencies, such as CDC, are withdrawing from projects which do not have a clear, and short term, commercial benefit. Further, increasing amounts of private companies are asking the government to guarantee loans, provide credit, and supply investment funds. Commercial banks are reluctant to finance loans directly to smallholders. The problem with many smallholder projects is trying to work out a production risk, which is not proven yet. Private investors are increasingly concentrating on crop processing and marketing where there are large margins and quick profits. They prefer outgrowers to contract farmers and prefer to avoid smallholder programs in which there are multiple partners. They are reluctant to invest in future production, varietal improvement and extension and are wary of markets that do not ensure a monopsony and may urge the government to provide a market niche.

All of these factors will make slow maturing projects, like tree contracting, heavily reliant on public support. The review has shown that many smallholder projects were motivated by implicit political objectives. 'The policies which governments adopt towards tree growing (like the policies which governments adopt toward the agricultural sector as a whole) are often quite fundamentally derived from areas where governments believe they can achieve the greatest political advantage' (Deweese and Saxena, 1995). A sound analysis of the nature of the state in particular contexts, and the type of support it can provide is therefore essential.

8.5 Role for a negotiator

Glover (1987) has said the contract is a way of allocating risk between producer and contractor; the former takes the risk of production and the latter the risk of marketing. Watts (1990) has observed the contract is a site for subordination and resistance. Both observations draw attention to the contract as a balance between producer and contractor. The state plays a central role in determining the distribution of costs and benefits in this balance either directly or through supporting policy. Assuming the state provides an enabling policy environment, there seems to be an obvious role for a negotiator or

mediator between the contractor and the producers. An NGO or cooperative has the potential of being able to negotiate favourable terms with the contractor and of identifying possible opportunities for contract farming. However, in the literature on the formative stages of contract constitution a case study with details of such an involvement has not been found. Anthony Ellman (formerly CDC) is constructing a model for the implementation of a contract farming scheme with an NGO called FAIDA taking the part of intermediary. Table 4 highlights his proposed criteria for new enterprise selection.

Table 4 Criteria for new enterprise selection

Issues to be addressed	Questions to be answered
<p>Market prospects for raw material Farmers must be able to sell all the raw materials they produce at a price that makes the enterprise profitable to them than alternative uses of their land and labour.</p>	<ul style="list-style-type: none"> • Does the company guarantee to purchase all the farmer production at an acceptable price? • Might an increase in production lead to a fall in the price paid to farmers? • Might the company drop the price once the farmers are contracted and committed? • Is the price needed to attract farmers affordable by the company? • Could farmers sell crops elsewhere to get a higher price or avoid debt repayments?
<p>Market prospects for end product The company must be able to sell the finished product at a price that makes the enterprise profitable</p>	<ul style="list-style-type: none"> • Can the company sell the end product at a price that makes the company profitable to it? • Is the market outlet very sensitive to quality of the product? • Is there a risk of the market being flooded and the outlet disappearing?
<p>Raw material production system Farmers should be able to grow the crop without too much risk of failure or debt, and without harming food production, women's position and the environment</p>	<ul style="list-style-type: none"> • Has the production system been tested so that the risk to farmers and company is not excessive? • Does the production system make good use of farmers land and labour, and avoid creating indebtedness through heavy capital investments? • Will the production system take land and labour away from food production? • Will it have a positive impact, or at least no negative impact on women and the environment?
<p>Economic viability to farmer Farmers must be able to make a profit comparable to what they could earn from other enterprises</p>	<ul style="list-style-type: none"> • Is the enterprise profitable to farmers at expected production costs, yields and prices? • How does its profitability compare with that from alternative uses of their land and labour? • Do farmers have access to the necessary financial and other resources?
<p>Economic viability to company The company must be able to make a good profit too</p>	<ul style="list-style-type: none"> • Is the enterprise profitable to the company? • Does the company have access to the necessary financial and other resources?

Source: Ellman (1997)

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Crop production depends on the availability of arable land and is affected in particular by yields, macroeconomic uncertainty, as well as consumption patterns; it also has a great incidence on agricultural commodities' prices. The importance of crop production is related to harvested areas, returns per hectare (yields) and quantities produced. Crop yields are the harvested production per unit of harvested area for crop products. In most of the cases yield data are not recorded, but are obtained by dividing the production data by the data on area harvested. The actual yield that is capture Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops. January 2000. Pari Baumann. Read more. Article. Underperformance in Indian irrigation systems: the problems of diagnosis and prescription. December 1983 Â· Geoforum. G. P. Chapman.Â The credit is the life blood of agriculture and which was disbursed through KCC Scheme in our country. The number of KCC issued and amount sanctioned in India, Karnataka, North-East Karnataka region and Bellary district was estimated using the compound growth rate analysis. The necessary secondary data about KCC scheme for India were collected from RBI publications since inception of the scheme. system of agricultural production involving a prior agreement between the buyer and producer that may specify quality and other criteria, input supply and technical support from the buyer and, often, an agreed price.Â The term "outgrower scheme" is sometimes used synonymously with contract farming, most commonly in Eastern and Southern Africa.Â This approach is mainly used for tree crops such as oil palm and rubber.Â They conclude that contract farming has had a significant impact on improving farm efficiency and productivity, and farmer incomes.[18] In a synthetic review of econometric studies, Minot and Ronchi (2015) suggest that participantsâ€™ incomes increase by 25-75%.[19] A more measured approach is taken in Ton et al.â€™s (2017) systematic review of contract farming. View Contract farming Research Papers on Academia.edu for free.Â This paper tries to explore concept of agriculture in its broadest sense form farm to fork is a sector that will benefit from enhanced modern research and development (R&D) input, information transfer & sharing, and improved marketing more.Â Thus, the study concluded that there is great possibility for technical efficiency to increase agricultural productivity in contract farming. Save to Library. Download.Â Farmers decision on whether or not to participate in a contract farming scheme have been investigated, particularly assessing the trade-offs between the contract attributes and their impact on the likelihood to participate.