

# **Global Survey and Analytical Framework for Forestry Out-grower Arrangements**

## **Final Report**

June 2000

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For

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Rome, Italy.

## Acknowledgments

We would like to thank Jon Anderson (formerly FAO), Chris Brown and members of the FAO Consultation Team for their constructive support throughout this study. In addition, members of the Resource Group, particularly Michael Arnold and James Mayers, provided valuable suggestions in the study's development stage. Neil Byron, John Turnbull, Andy Roby, Julio Alegre, Peter Lowe, Tony Rotherham, Philippe Guizol, John Vaney and Christian Cossalter also provided useful contacts for our work.

A study of this nature would not be possible without the willingness of a large number of people to share with us their experiences of out-grower schemes, for which we are grateful.

Our colleagues at the Department of Forestry – Australian National University were generous in their support of this study.

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## Disclaimer

The views expressed in this report are those of the authors, and do not necessarily reflect the views of ANU Forestry, the UN's FAO, members of the Resource Group or people consulted during the course of this study. In addition, the study relied on the good faith of respondents to the questionnaire to provide fair and accurate information on specific out-grower schemes. The authors were unable to verify all of the information collected via the questionnaire and so, caution readers that alternate views may be held by others involved in the out-grower schemes mentioned in this report.

## Executive summary

Out-grower schemes are an emerging feature of forestry development in many countries, yet the socio-economic value of such schemes is still to be fully assessed. The main aims of this study were to assess the extent and main characteristics of forestry out-grower schemes globally, with an emphasis on developing countries, and develop an analytical framework to assist the comparative analysis and development of existing and future out-grower schemes.

This study provides a broad overview of forestry out-grower schemes in operation around the world. A major component of the study was to survey forest industry staff who manager out-grower schemes, with a response rate of 21% received for the study's questionnaire – covering 17 schemes. Given the limitations of the study, it is not presented as a comprehensive review of all forestry out-grower schemes in operation.

Based on the information derived from the out-grower schemes reviewed by this study, the key issues that contribute to the success of schemes include the extent:

- ?? arrangements are appropriate (eg. partners should have a reasonable likelihood of deriving benefits, contribute to the strengthening of the socio-cultural and economic context of local communities);
- ?? contributions (eg. land tenure, business viability) and partnerships are secure;
- ?? production and market risks are accurately calculated and shared;
- ?? partners have the social and technical expertise to genuinely negotiate arrangements;
- ?? partners are informed of realistic prospects and opportunities (eg. flexibility of options);
- ?? arrangements and forestry practices are consistent with sustainable forest management principles – at the local and regional levels; and
- ?? arrangements contribute to wider community well-being.

Drawing on published literature and the results of this study, a set of principles and criteria or an analytical framework has been developed as a tool for assessing the implications of forestry out-grower schemes. This framework outlines the characteristics that appear to have a major influence on the extent out-grower arrangements are fair and beneficial for each partner (or potential partner).

### Framework for assessing forestry out-grower schemes

#### *Principles*

- ?? Mutual acceptance of each partner's aims under the arrangement;
- ?? Fair negotiation process where all partners can make informed and free decisions – including allowance for a third party to negotiate on their behalf;
- ?? Realistic prospect of all partners being able to derive benefits proportional to their contributions and risks; and
- ?? Long-term viability and commitment of partners to optimise the returns from the arrangement – in terms of commercial, socio-cultural and environmental attributes.

**Criteria**

- ?? Positive local socio-cultural, policy, economic and environmental context for all the principles (noted above) to develop;
- ?? Partners have a willingness and capacity to contribute to arrangements within the socio-economic and environmental parameters of their household/business over the contractual period – with opportunities for re-negotiation or inherent flexibility within contracts (ie. partners need to avoid high risk arrangements);
- ?? Arrangements are formalised (ie. have legal status) with clear details of when and how multiple benefits can be arranged (eg. collection of NTFPs, grazing, inter-cropping), contracts can be nullified, and compensation would be forthcoming. It would also appear useful for a credible and independent third party to be nominated to arbitrate if disagreement arises;
- ?? Partners have access to accurate, in-depth and independent information on the:
  1. likely short- and long-term prospects – with contingency scenarios explored if arrangements are nullified;
  2. current and likely long-term viability of prospective partners; and
  3. likely long-term context for local forestry development (eg. market trends – product volumes and competitiveness, necessary infrastructure, government policy, code of practices, local SFM practices, landholder/grower participation, wider community support).

How these principles and criteria translate to any given local context will vary depending on the extent:

- ?? entering into out-grower arrangements out-weighs the opportunity costs for both partners;
- ?? partners are informed of the commercial prospects and wider implications;
- ?? regional markets provide positive commercial returns for both partners;
- ?? partners remain motivated to contribute to arrangements – reflecting the importance of schemes to the viability of the household/business;
- ?? government has a willingness and capacity to develop encouraging policies and procedures;
- ?? community perceptions of out-grower schemes and potential partners are favourable; and
- ?? institutional support is available for providing market information and a fair negotiating context.

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# 1. Introduction

## Background to the study

While forest activity to supply household needs – subsistence forestry – accounts for much of the forestry undertaken throughout the world, commercial forestry provides important benefits to household, regional and national economies. An important aspect of commercial forestry is the trade between those supplying forest products (or providing access to land/forests) and those processing for end-uses. The trade relationship between suppliers (eg. growers) and processors often plays an important role in determining the nature and extent of benefits derived from commercial forestry, and the distribution of these benefits.

Those interested in forestry development – whether in industrialised or non-industrialised countries – are becoming increasingly aware that positive partnerships between forest companies and growers can provide a means of encouraging forest management which is environmentally sustainable, cost-efficient and equitable.

Forest company-grower partnerships can take many forms. For example, existing partnerships may be informal or formal (eg. contracts), occur between forestry companies and growers, who may be individuals, groups or communities, be short-term or long-term, and offer simple financial returns or multiple benefits to growers. Sometimes, partnerships involve more than two parties in the negotiation phase, as often NGOs, government and market agents may influence arrangements on behalf of growers. While some small-scale growers have developed commercial forestry ventures independently of industry and government assistance, most choose to link with industry before harvesting.

Forestry out-grower schemes describe one type of partnership emerging between growers and processing companies, as the companies with inadequate forest holdings or access to public forests seek to secure additional supplies to meet the increasing global demand for wood products. Under out-grower partnerships, growers allocate land and other resources to the production and management of trees (sometimes other forest products) for a processing company, with the company providing a guaranteed market. The varying responsibilities of each partner are defined by contract.

The incentives for forest processors to develop out-grower schemes include: increased supply of wood resource, access to productive land, resource security without the need to purchase land, diversification of supply, and increased cooperation with local communities. For growers, the reasons to join out-growers schemes include: an alternate and additional source of income, guaranteed market for products, reduced market risk and, in some cases, financial support.

However, existing out-grower arrangements vary considerably in their ability to be mutually beneficial, achieve sustainable forest management, and meet the social, technical or economic goals of the partners. Not all out-grower partnerships are viewed as successful and poor grower-industry links are regularly identified as one of the major constraints to forestry development throughout the world.

If out-grower schemes are to achieve their full potential, an understanding of how partnerships differ, under what circumstances they occur, and what the critical ingredients are for mutually beneficial partnerships, have emerged as important research questions.

A workshop held at the International Institute for Environment and Development (IIED), in London during April 1999, brought together knowledge of, and initiated further discussions on, out-grower

partnerships between forest companies and growers worldwide. Following the workshop, the Department of Forestry - Australian National University (ANU Forestry), in collaboration with the UN's Food and Agriculture Organisation (FAO), undertook a global survey and analysis of forestry out-grower schemes to:

- ?? assess the extent and location of out-grower schemes world-wide; and
- ?? identify key parameters for successful out-growers schemes to provide guidance to forestry developers, decision makers and participants in such schemes.

The results of this study will be important for informing FAO's Global Forest Resources Assessment 2000 report, a reporting process conducted every 10 years. This study is also a part of a continuing collective effort to improve understanding of out-grower schemes.

Research into various aspects of forest company-grower partnerships throughout the world is being undertaken by a number of people throughout the world (eg. Arnold 1997; Curtis & Race 1998; Mayers 1998), yet much of this work appears to be at a preliminary stage. Several research projects are also known to be investigating forest company-community partnerships (eg. *Instruments for Sustainable Private Sector Forestry: 1998-2000* by IIED; regional case studies documented by the Rural Development Forestry Network by ODI; *Optimising Industry-Grower Partnerships for Farm Forestry* by ANU Forestry-CRCSPF).

However, information on the many forest company-grower partnerships that occur, and an assessment of their relative success, is difficult to obtain. While some issues are more relevant to either industrialised or non-industrialised countries, there are many issues common to both. This study attempts to highlight the issues raised in the limited literature available and to present additional case studies of other out-grower partnerships to contribute to identifying the key ingredients for mutually beneficial out-grower partnerships.

## 2. Context: Setting the scene

### 2.1 Definition of out-grower partnerships

A literature review reveals that numerous strategies have developed for trading wood between growers and the processing industry. For example, some companies obtain their supplies through trading intermediaries (ie. market agents) and do not have a direct relationship with growers, while other companies lease land (ie. rent) under contract from landholders for growing trees, or contract farmers to grow trees (Mayers 1999). Growers have also developed market strategies, such as establishing cooperatives or employing their own market agents, to improve the commercial returns from forestry.

For the purpose of this study, an out-grower arrangement is defined as a contractual partnership between growers/landholders and a processing company for the production of commercial forest products. Out-grower partnerships vary considerably in the extent inputs, costs, risks and benefits are shared between growers/landholders and companies. Partnerships may be short or long-term (eg. 40 years), and may offer growers only financial benefits or a wider range of benefits. Also, growers may act individually or as a group in partnership with a company, and use private or communal land/forests. The nature of individual out-grower partnerships (eg. responsibilities, contributions, returns) tend to be detailed in formal contracts.

According to the above definition, out-grower partnerships may include arrangements described in the literature as joint ventures and contract tree farming. Differences between each of these arrangements largely occur in relation to responsibility for silviculture, resource ownership and control, and the financial remuneration to growers. In conventional out-grower schemes, the landholder is contractually responsible for the silviculture and the supply of forest products (often timber) to the company at harvest. Under the contract, the company may provide inputs and/or technical support to the grower, and guarantees a market for the product. A number of out-grower schemes occurring in Ghana, India, South Africa and Thailand have been described in the literature (Mayers 1999).

In Australia and New Zealand, out-grower partnerships are usually referred to as joint ventures, with there being three broad types of arrangements – ‘lease’ joint ventures, ‘cropshare’ joint ventures, and ‘market’ joint ventures (see Box 1) (Curtis & Race 1998). These arrangements require a contractual agreement between the landowner and the forest processing company (sometimes a government forestry enterprise), identifying the inputs and responsibilities of each partner for the establishment, management and harvesting of trees, or for the management and harvesting of an existing forest. In New Zealand, joint ventures which share the financial returns following harvest are more common than ‘lease’ joint ventures as in Australia (New Zealand Ministry of Forestry 1994). In Australia and New Zealand, the industry partner may only guarantee market price at harvest or have an agreed return indexed to inflation. Also, not all industry investors are ‘end-product’ processing companies – some industry investors ‘on-sell’ or simply trade in raw or unprocessed forest products (eg. woodchips) (Curtis & Race 1998).

**Box 1: Forest company-grower joint ventures in Australia**

**Lease** joint ventures are agreements in which the landowner receives regular (usually annual) payments from the industrial partner for essentially leasing their land for commercial forestry.

**Cropshare** joint ventures are agreements between the landowner and investors – who may be forest processing companies, which identify the responsibilities of each partner for inputs and allocation of returns throughout the life of the treecrop. The returns from the harvest are determined from the market price at harvest.

**Market** joint ventures guarantee a sale for the grower, usually based on market price at the time of harvest. The grower is required to offer the industry partner the first option of purchase, however if a better price can be found, the grower may sell to another purchaser.

*Source: Curtis & Race (1998).*

## 2.2 Why out-grower partnerships are emerging

Recent reviews of the global changes in forestry provide a valuable understanding of the context in which forest company-grower partnerships are emerging (FAO 1999; Higman *et al.* 1999; IIED 1999). The important issues include:

- ?? Increasing attention to ensure forest management is balancing social, economic and environmental objectives. Various instruments are being developed (eg. product certification for markets, legally binding targets) at national and international levels. However, the effectiveness of such instruments in promoting sustainable forest management (SFM) is largely yet to be determined;
- ?? While there was a decrease in the total area of the world's forests between 1990 and 1995 by about 1.6%, there was an increase of 8.8 million hectares in industrialised countries (mainly from forest growth on abandoned agricultural land). Some form of out-grower partnership is likely to be important if industry is to gain access to this new area of forest;
- ?? Increasing privatisation of forests and/or forest services (including processing capital), making the private sector increasingly dominant in forestry. Typically, the private sector is investing in fibre production from high-yielding forests in plantations in sub-tropical and temperate regions (farm forestry is expected to play a growing role in supplying wood products). The biggest industrial investor in these forests is often the large-scale corporations. Reflecting this trend, is the survey results that 60% of the major wood pulp companies who responded to the survey source some of their fibre from independent, non-government growers (eg. through out-grower schemes, joint ventures) (IIED 1999). Also, large multi-national corporations (ie. global organisation) are increasingly dominating the private sector due to their growing value of trade in forest products;
- ?? Increasing number of mechanisms for the devolution of forestry decision-making and management to local communities or user groups. However, there appears to have been little analysis of the abilities of local communities to negotiate fair deals with the increasingly dominant private sector. This remains an important issue for understanding the benefits of out-grower partnerships; and

?? Communities need a combination of timber and non-timber forest products and additional forest services (eg. water catchments, recreation, wildlife habitat). Given the increasing role of the private sector in controlling forest access and management (as private forest owners, concession-holders to public forests), there is a continuing tension between community (public) and private sector expectations over how forests should be managed. This tension is also contributing to increasing attention to how private land is managed, and its impact on community needs.

### 2.3 Benefits of out-grower partnerships

As industrial forest companies are often the initiators of out-grower partnerships, the benefits for these companies from such arrangements appear to be significant. Out-grower partnerships allow the company to access additional, more secure, and/or cheaper supplies of forest products. These partnerships also allow companies to diversify the sources of their raw materials, which often makes good business sense (Arnold 1997; Curtis & Race 1998; Mayers 1999). In assessing the cost of operations, companies will consider, in addition to the direct costs of tree growing, the indirect costs and financial risks incurred through land purchase and the otherwise employment of large labour teams – much of which can be avoided through out-grower partnerships (Arnold 1997). Companies can also receive socio-cultural or socio-political benefits by involving local communities in partnership in forestry development, as a more supportive community context for industrial forestry is likely to be fostered.

For growers/landholders, a range of potential benefits through out-grower partnerships have been noted. In a review of out-grower schemes in Brazil, India and the Philippines (Higman *et al.* (1999), it was noted that farmers have been able to secure land tenure and increase the clarity over rights to trees being grown, gain access to financial support or sources of income while trees mature, receive higher net returns from trees than from traditional land uses, secure markets for wood, and have a good means of participating with the company and an ability to appeal to third parties. Such schemes have also enabled growers to generate an income from under-utilised land (Mayers 1999). While land tenure issues are not a major concern in Australia, the remaining benefits identified above correspond with benefits Australian growers/landholders have gained through forestry out-grower partnerships (Curtis & Race 1998).

The varying nature of some out-grower partnerships and the benefits they offer is illustrated in the case studies summarised in Box 2. While some companies offer growers a guaranteed market for their products – either at fixed/indexed or market prices – other companies promote partnerships with the additional benefit of a percentage share of the forest product (eg. timber) at harvest. Other arrangements have additional benefits that offer employment, or contribute to community development (eg. funds for school or health facilities) or agricultural improvements (eg. fodder for livestock).

On a world scale, out-grower partnerships can be a mechanism for addressing several important issues for sustainable timber production (Race 1999), which include:

- ?? bringing degraded land/forests back into beneficial production;
- ?? focusing on integrating forestry objectives of different partners over the medium to long-term; and
- ?? recognising that the long-term investment and discounting inherent with forestry are a common problem for small-scale growers and farmers, with company-grower partnerships offering a viable cost-sharing option particularly suitable for forestry.

**Box 2: Examples of out-grower partnerships****Swiss Lumber Company, Ghana**

The Swiss Lumber company has a sawmill in Ghana but lacks access to forest areas to obtain an adequate wood supply. While the company has developed plantations on its own land they will be insufficient to meet the capacity of its sawmill. Consequently it has developed strategies to attract out-growers to produce indigenous trees on land which was degraded and producing marginal agricultural yields.

Joint ventures are offered to landholders. Farmers receive a lump sum down payment upon joining the venture, an agreed percentage of the timber at harvest, an annual land rent, and first option on the weeding contract for the plantation as a means of creating employment for participating farmers. In return, landholders agree to give the company first option on the purchase their share of the timber at the prevailing market prices.

*Source: Higman et al. (1999).*

**PICOP, Philippines**

The Paper Industries Corporation of the Philippines (PICOP) developed an out-grower scheme for local landholders in order to seek additional plantation resources to partially supply pulpwood, as their 'concession' forests were becoming depleted. The company was also motivated by the opportunity it would provide to strengthen their relationship with local communities through the sharing of benefits.

In 1986, PICOP began to encourage farmers to grow *Albizia falcataria* on 8-year rotations on marginal lands for pulpwood. Under the out-grower scheme, they agreed to provide farmers with planting stock and technical advice, and assured a market for the product at a guaranteed minimum price. The company also developed the necessary road infrastructure and a strong extension service. In return, the growers agreed to give PICOP first right of refusal of the trees, after which they could sell to other buyers.

*Source: Arnold (1997).*

**Sappi and Mondi companies, South Africa**

These companies, which own large pulp and paper mills in the KwaZulu-Natal region have large forest plantation holdings. The interest in obtaining wood products from landholders, arising from problems the companies face in acquiring land or retaining land, with the companies encouraging landholders to produce wood commercially on a small-scale.

One scheme for small-scale landholders developed for Sappi and Mondi was initiated in mid-1980. Under this scheme growers established plantations of 1.2 ha on average. Under the contract, growers received subsidised inputs, loans against the final harvest, and extension advice. In return, they agreed to sell their wood to the company. The companies have also been encouraging block plantings on communal land in areas adjacent to their mills where there are existing out-grower schemes.

*Source: Arnold (1997).*

### Who do they benefit?

Much of the literature notes that the potential benefits of out-grower partnerships may only flow to growers/landholders under specific circumstances – indicating that assumptions about the extent of the benefits flowing from out-grower partnerships should be avoided. Yet Mayers (1999) indicated that growers perceive potential benefits from out-grower partnerships when:

- ?? under-utilised land that is not required for food production becomes available;
- ?? land tenure and tree rights are secure;
- ?? net returns that are higher than alternatives are anticipated;
- ?? cash flow is reliable through a regular income or assured sales;
- ?? technical and financial support is available; and
- ?? means of participation with the partner is clear.

It should be noted that resource security for growers may exist under land tenure arrangements other than private ownership (eg. long-term leasehold or community ownership) (Arnold 1997). Higman *et al.* (1999) indicated that out-grower schemes may even assist small-scale landholders to establish land ownership, as occurred in the PICOP scheme in the Philippines (Arnold 1997). However, Kato (1996) notes the limitation of the PICOP out-grower scheme, as the scheme is largely irrelevant for those who are landless – essentially the very poor. Arnold (1997) found that the landholders benefiting from the PICOP out-grower arrangement are those who had settled on land classified as alienable and disposable (ie. so could be purchased/leased for private use), had farms of about 11 ha (ie. sufficient land to dedicate to long-term ventures), and were growing subsistence crops or other intensive management systems that created under-utilised land. Typically, these farmers were producing low-input crops, had grazing livestock or were undertaking other extensive farming.

The schemes run by Sappi and Mondi pulp and paper companies in Zululand, South Africa, for small-scale landholders were found to be useful to farmers with other sources of income or where labour did not need to be diverted from existing activities (Arnold 1997). Typically, farmers need a regular alternate source of income to avoid cash flow difficulties between tree harvests and, therefore, to avoid dependence on loans. Out-grower arrangements that cause farmers to displace food crops with forestry can jeopardise food security and force households to generate higher incomes to purchase food – all which can expose households to greater socio-economic risk. Arnold's (1997) study of the experiences of out-grower schemes in the Philippines and South Africa led him to conclude that out-grower schemes were appropriate for farmers under certain conditions. In summary, out-grower partnerships require consideration of how farmers can make use of the gains in wood production, against the loss in agricultural production.

It should also be assessed whether the production seasons of forest products and agriculture are complementary, such as with minimal competition for farm labour (Mayers 1999). Mayers (1999) suggested that some farming and forestry systems can be counter-seasonal in temperate regions, enabling farm forestry activities. In contrast, these activities typically overlap in tropical regions (Hardcastle 1999, cited in Mayers 1999), although exceptions are known to occur.

Clearly, out-grower partnerships will not suit all forest growers and companies, yet clarification of the circumstances under which prospective partners will benefit appears warranted.

## 2.4 Out-grower partnerships: Issues and concerns

### Competing land uses

A concern of forestry out-grower schemes, especially in non-industrialised countries, is that tree growing can replace crop production, thereby reducing the staple food production of communities. In the KwaZulu region of South Africa, land shortage was the main reason many farmers decided not to join the out-grower schemes. Following this response, the companies agreed to focus their schemes on land of low agricultural potential. Although some farmers ultimately planted trees on arable land, displacement of food production in this situation was negligible (Arnold 1997).

In areas with widespread industrial forestry, some concern has arisen over excessive water use by trees, particularly where water is a critical constraint on farming. The issue of forestry reducing the water availability for agriculture – at farm and catchment levels, can be positive or negative, depending upon natural resource management objectives.

Some farmers involved in the PICOP out-grower scheme in the Philippines were found to move in and out of tree growing. The main reason for the movement was that farmers had also planted trees on land suitable for cropping, and after harvesting the trees and obtaining a substantial payment they returned the land to crop production (Arnold 1997).

In Australia, broadacre farmers tend to be willing to convert farmland of 10 ha or greater to commercial forestry if reliable market assessments indicate farm forestry is viable compared to the alternate land uses. In this situation, there are often reservations about whether the assessments are reliable given the lack of experience and in-depth market appraisals of farm forestry (Curtis & Race 1998). However, out-grower arrangements that provide some returns prior to final harvest (eg. land lease schemes) have proved to be the most popular (Curtis & Race 1998).

### Production methods

In most out-grower partnerships the company partner recommends, and sometimes controls, production methods to ensure optimal productivity of plantations. However, it has been reported that sometimes the recommendations have been too complex, labour intensive, and costly for growers. As a result, many farmers participating in the PICOP scheme opted to hire contractors to conduct the operations, or modified them (Arnold 1997). In such cases, farmers' profits were reduced due to the higher production costs or when modified schedules were followed, farmers were able to reduce their costs of tree growing (Kato 1996). For example, some farmers had minimised the level of maintenance, relied on natural regeneration rather than purchasing seedlings, and planted trees in woodlots at one time rather than staggered times of planting. However, such changes to recommended practices usually has productivity tradeoffs – either in lower yields or inferior quality. In turn, this will affect the financial returns to growers and would be likely to alter the profitability of out-grower schemes for growers and/or companies.

Providing growers with sound technical advice on forestry practices is advantageous to companies as it is likely to produce the quality and yields required. The provision of appropriate extension and technical support to growers can be important for the success of out-grower schemes. Mayers (1999) noted some of the more successful schemes have established nurseries to provide growers with high quality seedlings.

In the KwaZulu out-grower schemes, farmers' involvement in production varied. Farmers had the option to allow the company to manage the operations or hire contractors to carry out the work – yet this sometimes resulted in poor production (Arnold 1997). Based on observations of other schemes,

Arnold (1997) believed that farmers should be closely involved in production operations themselves, and rely less heavily on the company, to achieve improved productivity and increase profits by reducing contract labour costs.

### **Access to financial loans**

The availability of financial loans is often important for growers' participation in out-grower arrangements, particularly to cover the costs of establishment and early maintenance of plantations, but also to bridge finances until the trees were sold. However, loans may not always be necessary and can be an additional risk in forestry ventures – sometimes adversely affecting the profitability of schemes for growers. The availability of credit from partner companies may lead some farmers to employ labour unnecessarily, as was observed in the KwaZuli schemes (Arnold 1997), reducing the profits from tree growing. Consequently, Arnold (1997) suggested that the company partner who provides a service to the farmers should not be a source of loans for participants.

Arnold (1997) reported that while some farmers were willing to participate in the PICOP schemes, they were ineligible for, or unwilling to pursue loans due to the difficult administrative procedures. Although many of the farmers planting small areas did not require loans to cover labour and other costs.

### **Competitive markets**

Where competitive markets for forest products occur, out-grower partnerships are more likely to be balanced (Race 1999). A competitive market is likely to result in satisfactory market prices for growers. Although in some out-grower partnerships the processing company guarantees a market, growers can sell to other buyers offering better prices. For example, PICOP found growers in the schemes sold wood to other buyers offering better prices, while some growers for Sappi and Mondi, required by contract to sell their product to the companies, also sold to other buyers offering higher prices. Some growers had sold to other forestry companies to avoid repaying the loan (Arnold 1997).

To avoid loss of supplies from out-grower schemes to other buyers, typically a company will choose to match the current market price and develop a positive relationship with growers. The development of positive relations may involve meeting farmers information needs, providing greater market share of the profits, or it may involve providing broader agricultural and community benefits. In response to the lesser security of wood supply from out-grower schemes in competitive markets, companies have also reduced dependence on out-growers by developing alternative strategies for obtaining its wood requirements (Arnold 1997; Curtis & Race 1998). Some companies have withdrawn their out-grower schemes altogether (Shingi 1997).

Competitive markets also reduce the reliance of growers on companies – particularly during times when they may be unable to fulfil their contractual commitment to purchase. Examples have been reported that the processing company has reduced its purchases from out-growers when demand has decreased or supply requirements have changed (Arnold 1997; Curtis & Race 1998; Mayers 1999).

Together with more competitive markets, Arnold (1997) suggested better representation of growers in the negotiation process and more flexible partnerships that offer growers a share of the value of the processed products under out-grower schemes would contribute to more attractive prices for growers.

However, where competitive markets are lacking, companies can tend to be uninterested in initiating out-grower schemes, as in the Australian experience (Curtis & Race 1998). Even where

out-grower arrangements occur, uncompetitive markets will make it difficult to calculate prices on which to base negotiations. Curtis and Race (1998) suggested that a fundamental task of forestry development, and farm forestry in particular, will be to encourage competitive markets at a local scale to develop. They identify some scope for developing long-term supply arrangements that allow costs and prices to be reviewed at regular intervals as a means of encouraging fair out-grower arrangements. They also indicated that investment by government may be needed to improve access (eg. increase market information, transport infrastructure) to more competitive markets.

Variability in the market place is largely inherent in the commercial forestry sector. Both companies and growers are susceptible to periods of market instability over the contract period if insufficient financial flexibility has been incorporated into partnership arrangements. However, poor forecasting of changes in market demand on the part of companies has also resulted in failure of partnerships, particularly in the pulp and paper industry (Mayers 1999).

### **Negotiating arrangements**

Generally, the out-grower arrangements offered by forest companies are limited. Some company staff believe offering flexible arrangements, such as involving individual negotiations with numerous growers, can be too time consuming and expensive to manage (Curtis & Race 1998). In the same study, the authors also found that companies were more willing to negotiate with those growers in close proximity to mills, or with a desirable wood supply. However, in regions where supplies from small-scale growers are less critical for companies, growers typically have to accept or reject the schemes offered. In these circumstances, unequal partnerships can develop (Mayers 1999) and have limited grower participation (Arnold 1997). Even where forestry companies are willing to negotiate with growers, the companies' greater knowledge of markets and the general inexperience of growers places growers in a poor negotiating position.

In the KwaZulu schemes, the growers' lack of negotiating power resulted in many signing contracts which they do not fully understand or with unrealistic expectations of the likely returns. The South African schemes have drawn criticism due to the lack of balance of the risks and returns for growers and the companies in the arrangements (Arnold 1997).

To enhance growers' capacity to negotiate more balanced and equitable partnerships, growers could benefit from employing a third party to negotiate on their behalf (Arnold 1997; Mayers 1999). However, Mayers (1999) also noted that growers who gain experience and proficiency in negotiation with forestry companies by renegotiating contracts periodically, may have less need for such an organisation. Under these circumstances, out-grower partnerships are most likely to be balanced (Mayers 1999).

In Australia, small-scale growers generally feel they are ill-equipped to negotiate with the industry and doubt the fairness of current arrangements. To make a more significant investment in forestry, many growers believe they would be better placed if they joined a marketing cooperative or operated independently of a company – seeking to contact potential buyers at the time of harvest (Race & Curtis 1999). However, the study found that in regions where poor market structures occur, small-scale growers best opportunity to negotiate with companies may be prior to tree establishment. At this time, farmers have greater negotiating power and have the opportunity to redirect their household resources.

### **Scope of partnership**

Typically, out-grower schemes offer technical support to growers to facilitate the production of the optimal volume and quality of wood (Arnold 1997; Curtis & Race 1998; Vuokko & Otsamo 1998;

Shingi 1997). However, reviews of existing out-grower schemes indicate that the most successful schemes offer growers broad arrangements which provide technical support and advice needed by growers to overcome a range of socio-economic and environmental issues (Curtis & Race 1998; Mayers 1999), or which assist communities in achieving wider socio-economic aims (Mayers 1999).

The joint venture project run by ENSO and Inhutani in West Kalimantan, Indonesia, provide a range of community benefits to participating villages, including improved infrastructure, improved rubber trees for private plantations, support in developing agricultural practices, and employment opportunities (Vuokko & Otsamo 1998).

Mayers (1999) noted that out-grower partnerships with community groups present greater challenges for companies, such as helping communities to build their internal capacity to resolve internal disputes when they arise. The successful out-grower scheme involving a village community has been reported in West Kalimantan, Indonesia (Vuokko & Otsamo 1998). Although the company needed to overcome initial uncertainty about the venture, the uptake of the scheme by villagers has led to broad support for the company's interests.

### **3. This study**

#### **3.1 Methodology**

A literature review of out-grower schemes was undertaken to review the nature and context of current arrangements, and to identify the issues influencing the effectiveness of out-grower partnerships. An annotated bibliography of relevant literature was also prepared (refer to Appendix 3).

A Resource Group of 12 people with knowledge and expertise relevant to the study of out-grower partnerships was formed to provide expert input into the study (refer to Appendix 4). They were invited to contribute their knowledge of out-grower schemes, or of literature discussing out-grower schemes to this study.

A questionnaire was developed to identify the location and extent of existing out-grower partnerships, and to identify the benefits and issues arising from these partnerships (refer to Appendix 2). A total of 86 questionnaires were sent to informants in 46 countries, particularly non-industrialised countries in the Asian, African and South American regions (refer to Appendix 1). Attempts to send another 24 surveys to people in various countries proved unsuccessful (eg. poor communication capacity of recipient organisations).

The guidance of many people working in the forestry industry worldwide was sought to identify people and organisations who may have knowledge of out-grower schemes to whom questionnaires should be sent. About 25% of the questionnaires were sent to targeted companies, individuals or organisations identified in this way. The remaining questionnaires were sent to heads of forestry departments and non-government organisations identified from lists provided by the Resource Group and other people.

The questionnaire achieved a response rate of 21%, covering 17 schemes. Twelve respondents provided detailed information structured around the questionnaire. One respondent was able to provide details of six out-grower schemes of which he was aware. In all, respondents provided information on out-grower partnerships in Brazil, Columbia, Ghana, India, Indonesia, New Zealand, Portugal, Solomon Islands, South Africa, Vanuatu and Zimbabwe.

A further six respondents indicated that, to their knowledge, out-grower schemes were not in operation in the countries concerned. These countries were Cameroon, Germany, Japan, Nepal Peru and Sweden.

In addition, nine people responded indicating their inability to complete the questionnaire and so provided further contacts of people or companies who should be contacted. A questionnaire was sent to those identified and their number is included in the total respondents.

#### **3.2 Limitations of the study**

The undirected nature of a large proportion of the questionnaire's mailing had, as expected, a much lower response rate than the targeted mailing. Most mailing occurred during late-October to early-November 1999, with responses received up until late-May 2000.

While every attempt was made to contact the key people via email, fax and/or letter, telecommunication capacity varies considerably around the world, preventing 24 questionnaires from being delivered. In other cases, communication with key people was delayed for reasons

beyond the control of this study (eg. people on leave). Also, as expected the questionnaire was not necessarily the best survey tool for all potential respondents. Firstly, the questionnaire was written in English, which may have inadvertently discouraged respondents proficient in other languages.

Furthermore, given the nature of the study, the questionnaire was sent to individuals, organisations or companies who could be contacted via email, fax or letter. As such, it was unlikely that many growers would be contacted, leaving companies to be the primary source of information for the study. Consequently, the results of the questionnaire could be expected to more accurately reveal issues from a company's perspective, rather than from a grower's. Oral communication with some localised fieldwork is likely to be a better means of obtaining growers' perspectives, and so warrants consideration as an additional phase in the study of out-grower arrangements.

## 4 Results

### 4.1 Profile of out-grower arrangements

In this study, out-grower arrangements were identified in Brazil, Columbia, Ghana, India, Indonesia, New Zealand, Portugal, Solomon Islands, South Africa, Vanuatu and Zimbabwe. A profile of these out-grower partnerships is provided in Box 3. Information was generally provided by forestry companies, a marketing partner, and a forestry consultant assisting with the schemes in Zimbabwe.

The majority of schemes were initiated in the 1990s. The out-grower schemes were primarily initiated by the forestry companies with a view to gaining access to additional wood resources, largely for production of pulpwood, but also for sawlogs, wattle bark and poles. One forestry company reported it had initiated a scheme primarily for improving its public image. While most forestry companies have formed partnerships with individual growers, some companies have formed partnerships with community groups, cooperatives, or whole villages as in four schemes.

Additional reasons for companies to initiate schemes include:

- ?? providing growers with genetically improved material for higher productivity and profitability;
- ?? allowing more flexibility in the use of its own land;
- ?? involving more investors in the forestry business;
- ?? encouraging reforestation activity in the country;
- ?? consolidating forestry in districts where it is already established;
- ?? encouraging neighbouring landowners to become involved in and supportive of forestry; and
- ?? avoiding conflict with local people arising from wood production on land to which they have traditional user rights.

Although most schemes were initiated by the forestry processing companies, five schemes were initiated by community groups or individual growers. Communities initiated schemes to access capital to develop under-utilised land for subsequent income generation, while growers were similarly motivated to generate income from out-grower schemes to achieve socio-economic goals of their households.

### 4.2 Characteristics of out-grower arrangements

#### 4.2.1 Scale of schemes

The scale of the out-grower schemes reported in this study varies considerably – in terms of planned scale of planting, the volume of wood supplied to processing companies, and the number of growers involved (refer to Table 1, below).

Generally, agreements to supply pulpwood comprise the largest proportion of out-grower partnerships, with an area greater than 20,000 ha planned in four of the out-grower schemes: the Aracruz Celulose Timber Partner program in Brazil; SOPORCEL's EMPORSIL Scheme in Portugal; Stora Enso Inhutani III PT Finnantara Intiga Scheme in West Kalimantan, Indonesia; and the Tasman Forest Industries' Leasehold Maori Land Scheme in New Zealand. Two smaller schemes for pulpwood production plan to establish areas of 8,000 ha (Mondi Khulanathi scheme in South Africa) and 2,200 ha (PS Zimboard schemes in Zimbabwe).

**Table 1: Summary of out-grower schemes reported in this study**

Company and Out-grower scheme	Year scheme started	Primary product/s	Total area planned (ha)	Importance of product to company	Area planted (ha)	Number of growers	Typical area planted by growers (ha)
Aracruz Celulose – Brazil: Timber Partner program	1990	pulpwood, sawlogs	60,000	13% supply/yr to 17 % in future	20,000	1,989	10
Border Timbers – Zimbabwe: Outgrower Scheme	1996	poles	2,000	60% of supply/yr	450	65	3-4
ITC Bhadrachalam Paperboards Ltd – India: clonal eucalypt plantation scheme	1989	pulpwood poles	1,500-2,000 ha/yr	will meet total pulpwood needs	3,210	1,375	1.5
Kolombangara Forest Product – Solomon Islands: Kolombangara forestry out-grower scheme	1989	sawlogs	30 ha/yr	not significant yet	200	100	1-2
Melcoffee Sawmill – Vanuatu: MSL Extension Forestry Scheme	1996	sawlogs	400-500	-	100	50	1-2
Mondi Ltd – South Africa: Khulanathi Scheme	1994	pulpwood	8,000	strategic value	5,900	2,854	2
PS Zimboard – Zimbabwe: Fallscroft Estate Scheme	1997	pulpwood	60	2,100 m <sup>3</sup> /yr	40	1	
PS Zimboard – Zimbabwe: Himalaya Cooperative Scheme	1999	pulpwood	500	-	nil	Cooperative (22 people)	
PS Zimboard – Zimbabwe: Kaerezi Estate Scheme	1997	pulpwood	1,000	60% eucalypt pulpwood	600	1	
PS Zimboard – Zimbabwe: Manicaland Development Association Scheme	1998	pulpwood	300	10,500 m <sup>3</sup> /year	100	1	
PS Zimboard – Zimbabwe: Nyafarm Development Cooperative Scheme	1999	pulpwood	300	17 000 m <sup>3</sup> /year	nil	Cooperative (20 people)	
Smurfit Cartón de Columbia – Columbia: Third Part Reforestation Programs	1986	pulpwood	undefined	Maintaining area needed	3,860	56	69
SOPORCEL – Portugal: EMPORSIL Scheme	1990	pulpwood	30,000	10% annual supply	10,000	-	20-40
South Africa Wattle Industry – South Africa: Phezu Komkhono Scheme	1995	wattle bark	2,000	5% of supply	436	430	1
Stora Enso, Inhutani III – West Kalimantan: PT Finnantara Intiga Scheme	1994	pulpwood	30,000	All fibre for mill	22,000	100 villages	200
Swiss Lumber Company – Ghana: Out-grower Scheme	1991	sawlogs	25 ha/year	Public relations	150	25	4-10
Tasman Forest Industries – New Zealand:	1993	pulpwood	20,000	1/3 of plantation	11,000	27 groups	200

No area was reported for Smurfit Cartón de Columbia in Columbia and ITC Bhadrachalam Paperboards in India. However, under these schemes 3,860 ha and 3,210 ha have already been established. Furthermore, ITC Bhadrachalam Paperboards anticipates the annual establishment of between 1,500 and 2,000 ha/year in future.

During the implementation of these schemes, two companies have reviewed their expected plantation area. Due to the enthusiasm of growers, Aracruz Celulose recently increased the area planned in the Timber Partner program from 28,000 ha to 60,000 ha, and have recently expanded the scheme to include sawlog production. In contrast, Stora Enso Inhutani III decreased their total planned area from 100,000 ha to 30,000 ha in response to the current political instability perceived in Indonesia.

The percentage supply of pulpwood anticipated from these schemes differs between forestry companies (Table 1). They range between supplying the total annual resource, for example in the PT Finnantara Intiga and ITC Bhadrachalam Paperboards schemes, to being of strategic value, as for the Mondi processing company. As a result of Aracruz Celulose increasing their projections for plantings, the future significance of the annual wood volume supplied from this scheme is expected to increase from 13 - 17%.

The schemes initiated for the supply of sawlogs have been planned on a smaller scale. The out-grower schemes run by Kolombangara Forest Products in the Solomon Islands, and the Swiss Lumber Company in Ghana, have assisted growers to establish 200 ha and 150 ha woodlots, with plans to expand the area by 30 ha/year and 25 ha/year, respectively. Melcoffee Sawmill in Vanuatu aims to assist growers to plant between 400 ha and 500 ha in total. Currently 100 ha have been established.

The remaining two schemes, Border Timbers and the Phezu Komkhono Wattle Bark Loan schemes, aim to establish an area of 2,000 ha. These schemes were initiated for the production of poles and wattle bark, respectively.

The number of growers involved in the schemes presented, and the typical area of land they allocate for tree planting is also variable (Table 1). The number of out-grower partners in the schemes reported in this study show considerable variation, ranging from 1 to 2,000. The typical area planted by out-grower partners is also equally varied. In seven of the out-grower schemes, growers have planted between 1 and 10 ha, suggesting that these schemes are popular for small-scale tree growers.

#### 4.2.2 Nature of the arrangements between partners

The arrangements between growers and processors (or cooperative) may be characterised as:

- ?? partnerships in which growers are largely responsible for production, with company assurance/guarantee they will purchase the product;
- ?? partnerships in which the company is largely responsible for production, paying landholders market prices for their wood allocation;
- ?? land lease agreements in which landholders have little involvement in plantation management; and
- ?? land lease agreements with additional benefits for landholders.

**Partnerships with growers largely responsible for production**

In out-grower schemes where the growers are primarily responsible for production, for entry processing companies usually guarantee to purchase the wood at harvest. The extent of further support from the companies varies. The returns to growers also differ. It should be noted that while arrangements are typically detailed in a contract, the schemes run by Kolombangara Forest Products and Melcoffee Sawmill have no contractual basis.

Growers are responsible for the production of trees in the schemes operated by PS Zimboard in Zimbabwe, Kolombangara Forest Products in the Solomon Islands, Melcoffee Sawmill in Vanuatu, Mondi in South Africa, the South African Wattle Growers Union, and Aracruz Cellulose in Brazil. While growers in the Border Timbers scheme may be responsible for production, the flexibility of the arrangement allows the company to share this responsibility under the grower's terms.

Thereafter a number of differences are evident. Unlike most schemes, PS Zimboard does not provide inputs for plantation establishment, although it offers growers technical advice. In the remaining schemes growers are provided with seedlings, typically at cost, and technical support. The South African Wattle Growers Union, Mondi, and Aracruz Cellulose schemes provide additional inputs. As well as seedlings and technical assistance, the South African Wattle Growers Union provides growers with fencing, site preparation, fertilisers and insurance. The Aracruz Cellulose scheme provides seedlings, fertiliser and ant killer, if required, free of charge provided growers sell the wood to the company. The company also covers any insurances or taxes arising from the agreement. In the event the grower sells to another company, default arrangements for payment are specified in the contract.

Growers also benefit from the above schemes by retaining low-grade material (eg. prunings, thinnings) for their own use. In the Aracruz Cellulose scheme, growers retain an additional 3% of wood volume for their own use and receive native seedlings free of charge. In the scheme run by the South African Wattle Growers Union, in addition to receiving market prices for the wattle bark, growers retain all the wood for their own use or may sell it as pulpwood.

Some forestry companies do not offer finance to their growers – these are Kolombangara Forest Products in the Solomon Islands, Melcoffee Sawmill in Vanuatu, and ITC Bhadrachalam Paperboards Ltd. in India. Melcoffee Sawmills indicated that growers did not require loans, as the company covered the cost of establishment. Two schemes in Zimbabwe offer growers loans at 15% interest, while Mondi offers growers loans at 10% interest, and the South African Wattle Growers Union offers loans at 8% to cover the costs of inputs. However, the Aracruz scheme offers growers finance to meet the operational costs of plantation establishment and maintenance, to be repaid in the equivalent value of wood at the time of harvest.

**Partnerships with companies largely responsible for production**

Under two out-grower schemes, the company partner is responsible for tree production, undertaking all the establishment, management and harvesting. These schemes are Smurfit Cartón de Columbia in Columbia, and SOPORCEL in Portugal. Growers in partnership with Smurfit Cartón de Columbia, as landholders, are responsible for continuing to pay land taxes. They are also required to contribute to the construction of any secondary roads required for harvesting. Under the EMPORSIL out-grower scheme, landholders may negotiate to contribute labour and machinery.

The contract arrangements between the growers and processors specify the percentage of wood volume growers retain at harvest. The company agrees to purchase the wood at the market price at harvest. Under the EMPORSIL scheme, the grower's percentage will vary according to the extent

of their involvement. Under this scheme landowners may also retain hunting and other rights to the area planted. Also growers retain the entire earnings from the second and third rotations under both the EMPORSIL (Portugal) and Third Part Reforestation Programs (Columbia) schemes.

### **Land lease agreements with minimal involvement from growers**

The Tasman Forest Industries have entered into land lease agreements with Maori groups to develop plantations over two rotations. This arrangement was preferred by the landholders compared to a joint management option. The company pays an agreed annual rent for the contractual period. Landholders have some joint responsibility for animal control in the plantation area, and maintain their rights to hunt and graze sheep amongst the trees.

### **Land lease agreements with additional benefits for growers**

Two schemes reviewed in this study – PT Finnantara Intiga operated by Stora Enso Inhutani III in Indonesia and the Swiss Lumber Company in Ghana, comply with this category. Under these schemes the forestry companies, in addition to paying landholders an annual rent for the land under plantation, offer growers employment opportunities and a percentage of the wood volume produced which they guarantee to purchase at market prices. Under the Swiss Lumber Company scheme, growers are employed to carry out maintenance work. In some cases the growers are not necessarily the landholders, with the allocation of 50% of the wood volume shared between them. Under the PT Finnantara Intiga scheme, villagers are employed to carry out work in the plantation while the company maintains responsibility for plantation activities. The landholders comprise villagers, who own 10% of the plantation. Both companies provide inputs, with the Swiss Lumber Company providing the seedlings and equipment for plantation establishment and the Stora Enso Inhutani III providing the necessary inputs.

In addition to plantation activities, Stora Enso Inhutani III provides the villages involved in the out-grower scheme with seedlings of multi-purpose species and improved rubber clones. They have also allocated resources for community development, primarily through the provision of infrastructure and skills to improve permanent agriculture. Both the company and the Indonesian Ministry of Forestry fund the scheme.

### **4.2.3 Contract period**

The contractual period that land is committed to growing trees differs according to rotation length, and the number of rotations agreed under the contract. For example, growers in the EMPORSIL scheme have committed their land to tree growing for three rotations, or 36 years, in order to receive the benefits of the third rotation. In other schemes, the rotation lengths vary from 7 to 15 years for hardwood and softwood pulp. Out-growers in the Border Timbers scheme in Zimbabwe have committed their land to pole plantations for 10 to 12 years.

However, it is uncertain whether the period for which the land is committed for plantations is specified in the contract. ITC Bhadrachalam Paperboards reported that growers have often harvested trees before the end of the anticipated rotation, suggesting the term of commitment of land to plantations may not always be specified in terms of a set number of years but rather crop cycles.

#### 4.2.4 Role of other organisations

Other organisations or institutions may facilitate out-grower schemes. However, in this study the role of a third party was limited to:

- ?? Government agencies providing tax relief to those investing in reforestation, including schemes run by Smurfit Carton de Columbia;
- ?? Financial institutions providing loans for plantation development through Tasman Forest Industries; and
- ?? Confederation of Zimbabwe Industries (CZI) providing training and establishing business links between forestry companies and growers in three out-grower schemes operated by PS Zimbabwe: Kaerezi Estate, Nyafarm Development Company, and Manicaland Development Association.

It was reported that Aracruz Cellulose envisages a role for cooperatives to represent farmers in their out-grower schemes in the future.

#### **Box 3: Profiles of out-grower schemes reported in this study**

##### **Aracruz Cellulose, Brazil: Timber partner program**

Aracruz Cellulose has operated an out-grower scheme for pulpwood production since 1990. The company initiated the scheme to increase supply of wood fibre. Restrictions imposed after protests against companies owning large tracts of land had prevented the company from expanding their own plantations. The popularity of the scheme has encouraged the company to expand it to include the production of sawlogs.

The company offers growers three contract options varying in the extent of company inputs and the grower's need for financial assistance. They offer technical assistance and seedlings in all schemes. Growers may also receive fertiliser, ant killer and interest free loans, if desired. If the grower sells the wood to the company, the seedlings, fertiliser and ant killer is provided at no cost. Insurance and taxes arising from the agreement are paid by the company. Under contract, the company retains an agreed percentage of wood in payment for technical assistance and any financial assistance. For the remaining wood, the grower receives market price or better for the wood.

The growers are responsible for planting the seedlings, maintaining the plantation, harvesting the trees within 6-8 years, and transporting the logs to the company's nearest depot. If the grower sells to another purchaser, they must pay back the company expenses plus 10-20% for defaulting on the contract.

In addition to receiving market price for the wood volume sold to the company, growers retain 3% of wood for their own use and receive free seedlings of native species for planting.

Growers are planting *Eucalyptus grandis* and *E. urophylla* in woodlots which are harvested at 6-8 years and 12-14 years for pulpwood and sawlogs, respectively. To-date, 20,000 ha of the originally planned 28,000 ha have been established under the scheme. The enthusiasm of growers has resulted in the company increasing the planned area of plantation under this scheme to 60,000 ha. Almost 2,000 growers are involved in the scheme currently, each typically planting a 10 ha woodlot.

##### **Border Timbers, Zimbabwe**

Border Timbers has operated an out-grower scheme in Manicaland, Zimbabwe, since 1996 for the production of poles from eucalypt woodlots on a 10-12 year rotation. The company initiated the scheme to allow it greater flexibility in production from its own land, and aims to achieve a plantation area of

2,000 ha under the scheme, providing about 60% of its pole requirements. Currently the scheme involves 65 growers who have planted a total of 450 ha.

Under the out-grower scheme, Border Timbers offers growers some flexibility in production. The grower determines the production tasks they wish to accept responsibility for (with advice from the company), with the company accepting responsibility for the remaining tasks. Thus, the agreement may involve the company managing plantation activities partially or entirely. The financial arrangements vary accordingly. Border Timbers offers growers loans at 15% interest. The company guarantees to purchase the product at harvest at market prices.

### **ITC Bhadrachalam Paperboards Ltd., India: Clonal Eucalypt plantation scheme**

ITC Bhadrachalam Paperboards has run an out-grower scheme in Andhra Pradesh, India, for the production of eucalypt pulpwood and poles for the past 10 years. Unable to gain commitment for pulpwood supply from the State government, the company initiated the scheme to ensure supply of pulpwood, and to improve the productivity and profitability of pulpwood plantations by ensuring genetically improved material is used. Research, development and distribution of high yielding *Eucalyptus tereticornis* clones commenced in 1989.

The company provides growers with the genetically improved 'Bhadrachalam' *E. tereticornis* seedlings, technical support and enters into buy-back agreements, in which they offer to buy the wood at market price. The grower is responsible for planting and managing the plantation. They must also arrange the finance, if required, to purchase seedlings and maintain the plantation. Those who establish an integrated agroforestry system obtain crops in the first year. Growers also retain small timber and fuelwood after the trees are harvested.

Under this agreement the grower is not bound to sell the wood to the company. However, the company envisages that its efforts in working with growers and improving productivity of plantations will enable it to buy the bulk of the wood at market prices.

Currently there are 1,357 growers participating in this out-grower scheme, planting the genetically improved *E. tereticornis* in woodlots or agroforestry systems. The area of plantations are typically about 1.5 ha. The total area planted under this scheme is about 3,210 ha. The company anticipates an additional 1,500 farmers will join the scheme each year, increasing the total plantation area by between 1,500 and 2,000 ha annually.

### **Kolombangara Forest Products Ltd, Solomon Islands: Kolombangara Forestry scheme**

The company commenced the out-grower scheme in 1989 to produce additional sawlogs for their mill. Through this initiative, the company aimed to promote sustainable forest plantation management in the Solomon Islands, and to engender good relations with surrounding communities. The scheme is implemented on Kolombangara Island, in the Solomon Islands.

Under this scheme, the company will purchase logs from growers. The company provides seedlings and silvicultural advice. The growers are responsible for the establishment and management of plantations. No finance is offered by the company. These arrangements have no contractual basis and so there is no formal commitment from the growers to sell wood to the sawmill.

The growers retain residual wood for their own use. Those who have adopted agroforestry systems also benefit from fruit and vegetables produced on the land as well as timber.

Currently there are 100 growers participating in the scheme, who have planted 1-2 ha in woodlots or agroforestry systems. The species planted are *E. deglupta*, *Gmelina arborea* and *Tectona grandis*. About 200 ha have been planted, with the company encouraging expansion of this area by 30 ha/year. It is expected that the growers will harvest the trees after about 16 years.

### **Melcoffee Sawmill, Vanuatu: MSL Extension Forestry**

In 1996, Melcoffee Sawmill commenced a scheme with local growers at East Coast Santo to produce sawlogs for markets in Asia, Noumea and Australia. The scheme was initiated by the company to gain access to an expanded resource for the future while helping landholders to retain their economic independence.

The sawmill provides growers with seedlings, as well as management and technical support to help plant and maintain the trees. At harvest, the company pays market price for the timber. The growers are responsible for the establishment and maintenance of trees, and are allowed to retain the low -grade timber from the trees for their own use.

About 50 growers are involved in the scheme, planting 1 -2 ha each of *Endospermum medullosum* in woodlots and agroforestry systems. About 100 ha of the planned 400-500 ha have been planted so far, with the trees expected to be harvested after 15-20 years.

### **Mondi Ltd, South Africa: Khulanathi scheme**

The company Mondi Ltd. has been operating an out-grower scheme in the Kwazulu – Natal region with landholders since 1990, when their demand for pulpwood increased following the construction of their pulp mill. The company developed the scheme in order to access suitable land, much of which was tribal land, for forestry in the vicinity of the mill.

The company provides growers with inputs, including cloned seedlings, fertiliser and herbicides. It also employs an extension forester in each district to provide assistance to growers in plantation establishment and maintenance, and advice on harvesting and transport. The company also offers finance to establish woodlots at 10% interest, payable at harvest. It pays the market price for the timber at the time of harvest.

Growers have tended to establish woodlots on their under-utilised land. They are responsible for plantation maintenance on their as well for delivering their timber to the company depot, which is located close to the communities to allow growers to use their existing vehicles. Growers receive the mill price for the wood less any costs to the company for transport and loading. Growers retain the low -grade timber for their own use (eg. firewood, fencing).

Under this scheme 2,854 growers have planted about 5,900 ha with eucalypts, with most planting a 2 ha woodlot. Production commenced in 1994 and the trees are harvested after 4 -6 years. Growers provide the company with about between 100,000 - 150,000 t/year. The company aims to increase the plantation area to about 8,000 ha.

### **PS Zimboard Products, Zimbabwe**

PS Zimboard Products in Zimbabwe operate five out-grower schemes, which commenced between 1997 - 1999. Two schemes were initiated by the company to obtain additional supplies of wood for their pulp mill, as eucalypt pulpwood is expected to be in short supply in the future. The remaining three schemes were initiated by landholders wanting to generate income for agricultural or community development. From one scheme alone the company aims to obtain 60% of its annual eucalypt wood supply.

The schemes are run by Project Committees – comprising representatives of growers and the company.

The company encourages plantations of *Eucalyptus grandis*, *E. saligna* and *E. regnans* in woodlots managed on 7-year rotations. The company offers growers technical advice and support, and guarantees to purchase the wood at market price. The company also provides loans for working capital at 15% interest to growers. The growers purchase seedlings from a commercial nursery, and are responsible for the establishment and maintenance of plantations. They also retain the low -grade residual wood.

In three schemes, there is just a single grower, planting 300 ha, 40 ha and 600 ha each. Cooperatives are involved in the remaining two schemes, comprised of 20 and 22 growers, and have established 300 ha and 500 ha plantations, respectively.

### **Smurfit Cartón de Columbia, Columbia: Third Part Reforestation Programs**

Smurfit Cartón de Columbia, situated in the Andean Columbia region, has been operating a scheme for the production of pulpwood since 1986. The scheme was initiated by the company to increase access to land adjacent to its own holdings, increase the future supply of wood, consolidate the forestry activity in neighbouring districts, support initiatives from its neighbouring landholders, involve more investors in forestry, and encourage widespread reforestation within the country.

Long-term contracts are sought with landholders, with the company undertaking all the establishment, maintenance and construction of secondary roads for harvesting. They will replace the plantation if damage occurs. Growers are responsible for paying the land taxes, and constructing the primary roads needed for harvesting. The contract details the percentage of wood volume allocated to the grower and the company, with the grower able to receive market price for their percentage rather than the wood.

The security of each partners' investment is protected under the contract. If the company decides to withdraw from the contract it must leave the plantation to the grower. If the grower decides to withdraw from the contract, they must return the company's investment plus an additional 30%. If grower decides to sell the land, they must ensure the purchaser agrees to fulfill the contract.

Under this scheme, woodlots of hardwood (*Eucalyptus grandis*) and softwoods (*Pinus oocarpa*, *P. khesya* and *P. tecunumanii*) covering 3,860 ha have been established. A total of 56 growers are involved, with each typically planting about 69 ha. The eucalypt and pine plantations are managed in rotations of 15 and 8 years, respectively. Through the scheme, the company aims to access the wood needed to supply 10% of its future hardwood and softwood requirements.

### **SOPORCEL, Portugal: EMPORSIL scheme**

Since 1990, the Lisbon-based company SOPORCEL has operated an out-grower scheme through its subsidiary company EMPORSIL for the production of pulpwood. SOPORCEL established EMPORSIL to manage their own plantations and to offer partnerships to landholders to access additional wood supplies.

Under this out-grower scheme, EMPORSIL undertakes plantation establishment and maintenance with funds supplied by SOPORCEL, and guarantees the success of the plantation. The grower provides the necessary land, and may provide labour and machinery if they wish. Proportional to their input, the grower retains a percentage of roundwood production, which SOPORCEL agrees to purchase at market price at the time of harvest. Contracts last through to the harvest of the third rotation. Contract arrangements may allow growers to retain hunting and other rights to the land placed under plantation.

Under this scheme, 10,000 ha of a planned 30,000 ha have been planted to -date with *Eucalyptus globulus* for pulpwood. Typically, growers plant woodlots of 20 - 40 ha in area, which are managed on 12-year rotations.

### **South Africa Wattle Growers' Union, South Africa: Phezu Komkhono Wattle Bark Loan Scheme**

The South African Wattle Growers Union, a marketing cooperative, sells wattle bark on behalf of growers to domestic South African markets. This scheme was initiated in 1995 in the Kwazulu Natal region, after a tribal chief approached the union for financial assistance for individual community members to grow wattle. Under the scheme, growers supply about 5% of the industry's demand.

The cooperative provides fencing materials, seeds or seedlings, fertiliser and arranges insurance for growers. They also provide an extension service and assist with plantation establishment. The cooperative also offers loans for plantation establishment at 8% interest, which is paid from the returns from sales.

The growers are responsible plantation establishment, maintenance, fire protection and harvesting – usually after 9 years of growth. They receive market price for the wattle bark from the Union. They retain the timber for their own use, primarily for construction and firewood, or to sell on the open pulpwood market.

Since the scheme commenced, 430 growers are participating by planting *Acacia mearnsii* woodlots of about 1 ha. The scheme aims to plant about 2,000 ha in total. In addition to the wattle bark, growers have produced about 8,000 t of poles and 7,000 t of pulpwood from the plantations.

### **Stora Enso Inhutani III, West Kalimantan, Indonesia: PT Finnantara Intiga scheme**

The PT Finnantara Intiga out-grower scheme, run jointly by a Finnish and Indonesian company – Stora Enso Inhutani III, has been developed to produce pulpwood, which commenced in 1994. The scheme was initiated to avoid conflict with local people when land, owned by the government with local people holding traditional user rights, was allocated to timber production under the Timber Estate Program of the Indonesian Government.

The villagers contribute village land, with many local people employed under the scheme. The company provides all other inputs, including the seedlings and is responsible for maintaining, harvesting and replanting of plantations. At harvest, the village retains 10% of the plantation, which they sell to the company at the market price. The company also provides villagers with seedlings of local multi-purpose trees and improved rubber tree clones, and has allocated resources for community development – particularly in support of agriculture.

Under this scheme, villagers are planting *Acacia mangim*, *A. crassicarpa* and *Eucalyptus pellita* on grassland and in bushland. The system of planting is dependent on original vegetation, topography and soil factors. The company has a target of establishing 30,000 ha to supply 10% of its requirements, with 22,000 ha already established. About 100 villages are currently participating, each planting about 200 ha.

### **Swiss Lumber Company, Ghana: Swiss Lumber Company scheme**

The Swiss Lumber Company operates an out-grower scheme in Manso-Amenfi, Ghana, for sawlog production. The scheme began in 1991, primarily as a public relations project by the company.

Under this scheme, the company pays the landholder – who may or may not be the grower, an annual rent for the land. It supplies growers with seedlings and equipment for plantation establishment. The company also employs growers to complete plantation maintenance. At harvest the grower and landholder receive 50% of the wood and the company the other 50%. The company has the first right to buy the grower's/landholder's 50% at market prices. The growers are allowed to keep the low-grade residual wood.

The company provides seedlings of *Terminalia*, *Metroxylon*, *Entandofragma*, *Miliciacea* and *Ceiba* species. As agroforestry is not possible, due to the poor productivity of the soil from past use, and erosion is of concern, the company encourages contour planting along degraded hill slopes. At present, 25 growers are involved, and have planted between 4-10 ha each. The company aims to plant between 20-25 ha/year, with about 150 ha currently planted.

### Tasman Forest Industries, New Zealand: Leasehold Maori Land

Tasman Forest Industries have been running a land lease scheme on Maori land since 1993, for the production of pulpwood. About one-third of the company's plantation estate is located Maori land. The scheme was initiated by the company to access additional wood fibre for their pulp mill.

The company leases land from Maori groups and manages the development and maintenance of the trees. The period of the lease allows the company to develop plantations for two treecrop rotations. The landholders retain hunting rights and may graze sheep under the plantation if desired. The management of vermin control is undertaken jointly.

To-date, 27 owners are involved in the scheme, each leasing about 200 ha to the company. Under this scheme eucalypt (*E. nitens*, *E. fastigata* and *E. globulus*) woodlots have been planted over 11,000 ha, with harvest expected after 11 years. The company plans to develop about 20,000 ha of plantations under this scheme.

### 4.3 Reported benefits of schemes to outgrower partners

The benefits of schemes derived by forestry companies and growers were reported and are summarised in Table 2, below. With the exception of one forestry company, the access to additional resources at competitive prices was considered the primary benefit reported. Under these schemes, companies' production costs are typically lowered by avoiding investment in land and labour costs. One forestry company, which initiated an out-grower scheme as a public relations exercise, saw an improved public image as the primary benefit. Another three forestry companies identified the primary benefits as: out-grower plantations being in close proximity to the mill; spreading the risk of environmental damage across numerous plantations; and increased community support by developing forestry that provides social and environmental benefits.

The majority of growers perceived the additional income generated from wood sales as the primary benefit of out-grower schemes, as noted in Table 2. Other important benefits for growers included additional employment for themselves and the community, the diversification of farm production, and the production opportunity by using under-utilised land.

**Table 2: Benefits of forestry out-grower schemes reported in this study**

Benefits of out-grower schemes:		Number of responses:
For forestry companies	Greater resource base at competitive prices	XXXXXXXXXXXXX
	Public image	XXX
	Geographic proximity	X
	Geographic spread of risk	X
	Social and environmental benefits	X
For growers	Income	XXXXXXXXXXXXX
	Diversification of farm production	XXXXXX
	Employment	XXXXX
	Production from under-utilised or idle land	XX
	Improved plantation productivity, profitability	X
	Access to investment capital	X
	Developing business skills	X
	Improved infrastructure	X
	Agricultural development assistance	X

Note: X = 1 response, XXXXX = 5 responses.

#### 4.4 Issues of concern for out-grower partners

The issues of concern for forestry companies and growers participating in the out-grower schemes reviewed are presented in Table 3. Readers are reminded that the growers' issues were identified by the company partners in this study, with the exception of the schemes in Zimbabwe, which were reported by a forestry consultant. A number of issues were reported by more than respondent, with discussion of the issues presented in the sections below.

The main issues of concern highlighted by forestry companies include the loss of the forestry resource as a result of changing land tenure, declining grower interest, competition from other land uses, and increased environmental hazards. Contractual price disputes and security on loans had also concerned some companies. However, some companies also identified external issues with the potential to threaten the viability of schemes, or hinder planning and investment. These included concerns about the unpredictable direction of natural resource management policies, conflict with environmental organisations and an unstable local environment for business.

In general, growers' concerns also stem from uncertainty of markets, viability of their company partner company, environmental risks of production, whether production was being maximised, and price and credit fluctuations. As indicated in Table 3, the high interest rates on loans dominate the concerns of growers participating in all of out-grower schemes reported for Zimbabwe.

**Table 3: Issues of concern reported in this study**

<b>Issues in out-grower schemes:</b>		<b>Number of responses:</b>
For forestry companies	Land re-distribution, sale	XX
	Conflict with environmental organisations	XX
	Uncertainty of growers commitment to agreement	XX
	Price negotiations	XX
	Environmental risks	XX
	Competition from other companies	XX
	Timber theft	XX
	Profitability of harvesting scattered plantations	XX
	Growers harvesting prematurely	X
	Loss of community support	X
	Growers defaulting on loans	X
	Stability of natural resource management policies	X
	Availability of land	X
Business atmosphere	X	
For growers	High interest rate on loan	XXXXX
	Dissatisfaction with prices	XX
	Reliability of market	XX
	Partners fulfilling contract	XX
	Environmental risk	XX
	Lack of finance	X
	Level of production	X
	Changes in natural resource management policies	X
	Loss of land productivity	X
	Maintaining good relationships with neighbours	X

Note: X = 1 response, XXXXX = 5 responses.

#### 4.4.1 Forest company issues

Some forestry companies expressed uncertainty about the security of supply under out-grower schemes. The potential loss of supplies through compulsory government land re-distribution or sale, and in one scheme, a change in political leadership which disfavours out-grower schemes concerned PS Zimboard, in Zimbabwe. One of three schemes affected by land redistribution proposals in Zimbabwe, the Himalaya Cooperative, has since successfully secured title to the land. Smurfit Cartón de Columbia in Columbia also consider the potential sale of plantation land to an uncommitted landholder to be a concern. Further, conflict between landholders and growers in the scheme run by the Swiss Lumber Company, arising from discrepancies between the traditional and government systems of allocation of land was identified as a potential threat to the long-term viability of the scheme.

While the above schemes are concerned about the possible loss of land under schemes, Stora Enso Inhutani III operating in Indonesia is concerned about the limited land available for future plantations and the increasing competition for land by the oil palm industry. The full dependency of the company on out-grower partnerships for wood supply makes land access a critical issue.

Both Stora Enso Inhutani III and ITC Bhadrachalam Paperboards (India) are concerned about the profitability of harvesting scattered plantations. ITC Bhadrachalam Paperboards indicated that the plantations developed under the scheme were dispersed and typically 1.5 ha in area, increasing the cost of harvesting and transport operations.

A lack of grower commitment to schemes has created uncertainty for some company partners. Kolombangara Forest Product and Melcoffee Sawmill are concerned that growers may identify other buyers at harvest time. Partnerships in these schemes are not bound by contract, heightening this uncertainty. Another company, Tasman Forest Industries believes the commitment of Maori groups to their contractual arrangements is unpredictable, as compared to contracts with public companies. Under the Mondi scheme in South Africa, a respondent indicated that other companies were persuading growers to sell wood early "... *at unrealistic prices and uneconomic volumes*", which disrupted contractual arrangements. Mondi was also concerned about the theft of timber, particularly in regions of high unemployment and people were in close proximity to the plantations. This situation had already resulted in a considerable loss of supply.

Concern over environmental damage to plantations caused by fires, insects, animals or disease was raised by Smurfit Cartón de Columbia in Columbia and Border Timbers in Zimbabwe. Although unlike Smurfit Cartón de Columbia, Border Timbers does not bear the production risk in the scheme. However, Border Timbers has additional concerns with its high dependency on the scheme for supplies (60% of its pole requirements) and the capacity of growers to repay their loans from the company. The South African Wattle Growers' Union, who run the Phezu Komkhono out-grower scheme, also indicated their concern about growers defaulting on loans they provided, particularly as plantations were often grown on community land with the loans unable to be secured through land ownership.

Issues relating to prices were raised by two companies. Melcoffee Sawmill in Vanuatu does not have a formal contractual arrangement with growers participating in the scheme, and is consequently concerned that royalties may not be successfully negotiated at the time of harvest. The Aracruz Cellulose scheme, which has been operating over a longer period, has experience of disputes about the purchase price with some growers, who mostly signed contracts between 1990 and 1994. During this high inflation period, prices were adjusted according to an official index, which no longer exists. Currently, market price determines the price offered, with dissatisfaction expressed by some growers that Aracruz Cellulose, who dominate the market, were keeping prices

low. Following negotiations, the dispute has largely been resolved by the company lowering the growers level of debt, effectively increasing their profit margin.

In the past landholders in the EMPORSIL scheme in Portugal, were also dissatisfied with the manner in which the company calculated their percentage wood allocation from the plantation. There were two issues raised which the company has tried to address. Firstly, EMPORSIL is paid in wood volume for its services, and the company has found it difficult determine an agreed value for its services. Secondly, after deducting a percentage amount in payment for EMPORSIL services, the company formerly calculated the percentage wood volume to be retained by the growers based on the estimated harvested volume and its monetary value. However, after the growers expressed dissatisfaction, the company now determines the percentage wood volume to be retained by growers from the actual volume harvested.

Disputes over out-grower schemes with independent environmental organisations have affected the Aracruz Cellulose and Tasman Forest Industries schemes. Tasman Forest Industries reported that environmental groups are trying to dissuade Maori groups from entering into land lease agreements for plantation establishment on land with native vegetation. Aracruz Cellulose is faced with a dispute with an environmental NGO about the scheme's environmental impacts, with a judicial inquiry appointed to arbitrate. This action has delayed the scheme's development and may have implications for the future of the scheme.

#### 4.4.2 Growers' issues

Typically, the growers' issues reported through this study's questionnaire correspond to those for forestry companies (Table 3). Growers are concerned about security in terms of future markets, the long-term viability of the company partner, and the company's ability to meet its obligations under the terms of contract. For the 100 villages involved in the Stora Enso Inhutani III scheme, this would mean losing a major business partner from which widespread benefits are generated.

Growers in partnership with Kolombangara Forest Products in the Solomon Islands, and PS Zimboard and Border Timbers in Zimbabwe, have raised concerns about the lack of financial assistance available to them. It appears that this has limited grower involvement in the out-grower schemes. Kolombangara Forest Products believes there is a role for government to provide loans to prospective growers, while growers in the schemes operated by PS Zimboard and Border Timbers have expressed concern at the high interest rates (15%) for loans offered by the companies.

The reliability of the market was reported as a concern for growers in the Mondi scheme in South Africa, where growers are exposed to fluctuating market demand for products. The company is subsequently investing considerable time in communication and negotiations with growers.

Some partners in the EMPOSIL scheme in Portugal are concerned that the company is not providing adequate silvicultural information to growers. There appears a willingness by some growers to play a greater role in forest management to improve yields and profits. However, currently the scheme only allows a very limited management role for landholders.

Alternatively, growers participating in the Smurfit Cartón de Columbia scheme have expressed concerns that forestry may reduce the productive potential of their land and subsequently diminish their good relations with neighbouring landholders.

Environmental hazards resulting in damage to plantations have implications for growers who carry the production risk and rely on high-interest loans. Growers in three schemes operating in

Zimbabwe have needed to replant due to damage from fire, insects and vermin. These ecological risks were identified as the biggest problem for these schemes. The need to replace poor quality seedlings also slowed production.

Growers in the Phezu Komkhono scheme managed by the South African Wattle Growers' Union may face restrictions on future plantations due to changes to legislation to restrict water use. The company views the lack of education from government about proposed changes to legislation as a major concern.

#### **4.5 Successes of out-grower schemes**

Respondents to the questionnaire reported the success of out-grower schemes included:

- ?? expanding future supplies for industry;
- ?? increasing the number and willingness of growers to participate in forestry; and
- ?? providing broad social and economic enrichment for the individuals and communities involved.

For example, reports about the scheme operated by Mondi in South Africa emphasised the contribution to building self-reliance of participating communities. Beyond the benefits for growers, the scheme provided employment for local people to transport the timber from the supply depots to the mill. Also, the Swiss Lumber Company reported it had had won several 'best practice' awards for its management of the out-grower scheme.

#### **Ingredients for success**

Mondi reported that the combination of optimal growing conditions, close proximity of plantations to the mill, and good prices for wood allowed growers to make a good return on their investment. As such, many landholders perceived forestry to be a better investment than agriculture. Mondi also noted that individual growers tended to receive greater benefits from the scheme as compared to community groups, due to their greater attention to their management practices to ensure high quality timber was produced. This supports the view of the South African Wattle Growers' Union, which reported that individual ownership has a positive correlation with successful out-grower schemes.

## 5. Discussion: Towards an analytical framework

### 5.1 Key issues

Generally, the issues raised by respondents to the questionnaire in this study reflect the issues discussed in the literature. Worldwide, there is a diverse range of out-grower schemes with a corresponding complexity of issues. As such, the nature and extent of benefits of out-grower schemes should not be assumed. A summary of the key issues that appear to determine fair and beneficial out-grower schemes is provided below. These issues were further developed into a set of principles and criteria, or an analytical framework (refer to Box 4, below).

Based on the information derived from the out-grower schemes reviewed by this study, the key issues that contribute to the success of schemes include the extent:

- ?? arrangements are appropriate (eg. partners should have a reasonable likelihood of deriving benefits, contribute to the strengthening of the socio-cultural and economic context of local communities);
- ?? contributions (eg. land tenure, business viability) and partnerships are secure;
- ?? production and market risks are accurately calculated and shared;
- ?? partners have the social and technical expertise to genuinely negotiate arrangements;
- ?? partners are informed of realistic prospects and opportunities (eg. flexibility of options);
- ?? arrangements and forestry practices are consistent with sustainable forest management principles – at the local and regional levels; and
- ?? arrangements contribute to wider community well-being.

#### Appropriate out-grower arrangements

The out-grower arrangements offered by forestry companies vary within, and between, countries, with those schemes reported in this study illustrating such variation. These include:

- ?? land lease arrangements where the forestry company has full responsibility for the whole forestry development process;
- ?? land lease arrangements with some opportunity for the landholder to participate in the production process;
- ?? arrangements where the forestry company and landholder share the production and market responsibilities and risks – with returns divided proportionally according to the level of inputs; and
- ?? arrangements where the landholder/grower has full responsibility for production, with the company partner offering to purchase at market price at time of harvest.

While the terms of agreement in some schemes may be fixed, others offer considerable flexibility in the extent of grower involvement – with growers able to determine their labour and investment contributions. Many forestry out-grower schemes have begun only recently, with several having undergone or still undergoing adaptation (eg. Aracruz Cellulose scheme in Brazil is expanding to include pulpwood and sawlog production).

### Security of contributions and partnerships

The importance of secure land tenure for the involvement of landholders in out-grower schemes has been highlighted in the literature (eg. Arnold 1997; Higman *et al.* 1999; Mayers 1999), yet security of land tenure is not the only requirement. The out-grower arrangement itself may be uncertain due to being an informal agreement (eg. as in Solomon Islands and Vanuatu), loss of business viability of either partner, change of company policy, closure/sale of company, or externalities. Externalities can include changes in government policy (eg. compulsory land redistribution), fluctuations in the value of the local currency, or changes in markets (eg. loss of local markets due to shifts in global market demand/supply).

The uncertainty arising from compulsory land redistribution was reported for three out-grower schemes in this study, with secure land tenure viewed as a necessary prerequisite for entering into an out-grower scheme. However, land ownership is not the only tenurial arrangement affording security, with there examples of growers who have established plantations on community-owned land and land under long-term leases.

The negotiation process should allow both partners to make an informed assessment about the security of the other partner's contributions and obligations. Also, contracts should clearly specify the circumstances under which out-grower arrangements can be nullified and the terms for compensation.

### Sharing production and market risks

In addition to prices paid by forestry companies at harvest, growers' returns are dependent on achieving optimal production yields. This in turn relies on adopting appropriate silvicultural practices to optimise growth of plantations and minimise the risk of environmental damage to the trees.

As discussed above, the nature and significance of market risks vary for partners – for both companies and growers, depending on the schemes themselves, as well as externalities. Where forestry companies make the financial and technical investment and assume responsibility for the production process, with the grower receiving an agreed percentage of the returns from production agreed to under contract (eg. lease arrangements), growers have largely been concerned about whether:

- ?? the leasing rate is fair;
- ?? methods used to calculate their return from market price or wood volume equivalent are fair;
- ?? production and harvesting has been optimised in terms of silviculture and market prices;
- ?? land has maintained its physical potential to provide reliable production in future (either from forestry or alternate land uses); and
- ?? there is a cost-efficient opportunity to change land use (ie. out of forestry) when the contract expires or concurrently (eg. integrated agroforestry).

Under some out-grower schemes (ie. where growers share responsibility for production), forestry companies provide technical assistance and advice to lower the risks for growers. However, the provision of such assistance can also increase the costs of production for growers (Arnold 1997). Alternatively, from a company perspective, participation by inexperienced growers can greatly increase the risks of poor production. The out-grower schemes operated by PS Zimbabwe in Zimbabwe offer growers technical and business assistance through a third party, with individual growers purchasing inputs or advice as required.

While it is difficult to provide generic guidelines, out-grower arrangements should aim to balance opportunities for flexible participation with contractual security.

### **Negotiation of arrangements**

Both partners need to have the capacity to genuinely negotiate out-grower arrangements that are beneficial and fair. Capacity building may involve developing expertise (ie. market knowledge, negotiating skills) or providing an affordable alternative, such as a third party to actively negotiate on the behalf of a partner. For example, an individual small-scale grower may possess little bargaining power, yet when combined with a large number of growers (eg. through a growers' cooperative, shared contracting of a market broker) may be able to extract a better deal in negotiations.

This study revealed that landholders/growers are often in a weak position to negotiate with large industrial forest companies due to their lack of market knowledge (eg. fair prices, long-term market trends), and if companies only offer a standard contract. In some instances, forestry companies can prefer to negotiate with a single representative organisation (eg. growers' cooperative), rather than incur the higher costs and time delays when negotiating with numerous individual growers (Curtis & Race 1998). However, the extent to which a partner can negotiate a better arrangement largely reflects the willingness of both partners to participate in an out-grower scheme, which in turn is strongly influenced by the nature of local markets (ie. favouring landholders/growers or processors).

### **Awareness of realistic opportunities**

Despite the apparent multiple benefits of out-grower schemes for growers and forestry companies, there can be considerable uncertainty about whether these benefits will be delivered in the long-term (some schemes can be binding for 30-40 years). An element of this uncertainty is due to the inherent fluctuations in the forestry industry – both at the local and international levels.

However, growers are frequently disadvantaged by their lack of detailed and realistic information about what returns they can expect over the short- and long-term. There is evidence that prices received by growers closely correspond to the level of market competition amongst buyers. Yet landholders/growers should not naively rely on prospective industrial partners to provide an appraisal of the opportunities under out-grower schemes. Third parties (eg. NGOs, government) wishing to encourage sound forestry development could play a catalytic role by supporting the availability of accurate market assessments.

Some respondents to the questionnaire reported that growers have been able to re-negotiate prices or their percentage wood allocation with companies to more accurately reflect market prospects (eg. Aracruz Cellulose in Brazil, SOPORCEL in Portugal).

### **Sustainable forest management**

While the principles of sustainable forest management (SFM) may be well known, how SFM should translate into local forestry practices is far from clear. This is further complicated under out-grower schemes when landholders/growers and forestry companies have different views as to what constitutes SFM. As with increasing market knowledge, both partners need to take responsibility for understanding the implications of forestry practices used under schemes, with subsequent negotiation to ensure clear agreement is reached. While not reported as such by respondents in this study, third parties could play an important role in making information available and negotiating on behalf of a partner to ensure SFM practices are employed.

## Community support

In large-scale forestry projects or where forestry is directly important to the livelihoods of the wider community, managers of out-grower schemes will need to be mindful of their implied obligations to the wider community. Merely arguing that out-grower schemes are exclusively a contract between individual landholders/growers and the forestry company may fail to prevent a wider community backlash if it is perceived that public benefits are being diminished. The potential for public backlash against forestry development should not be underestimated, as in the past it has led to dramatic changes in government policy, time delays for legal appeals, decline in reputation of companies, damage to growers' and companies' property, and decline in community interest in future participation in out-grower schemes. Of further complication is that communities may become divided in their support of forestry, with it difficult to clearly identify opinion leaders and their issues of concern.

Alternatively, if out-grower schemes are widely perceived to be fair and beneficial for the participating individual partners and their associated communities, then there is the potential for wider and more enduring benefits to flow from forestry development than simply producing wood fibre. Some companies will even absorb the higher costs of operating, or poorer quality timber from, an out-grower scheme compared to investing in their own industrial plantations due to the positive community support it can attract.

## 5.2 An analytical framework

Drawing on published literature and the results of this study, a set of principles and criteria or an analytical framework has been developed as a tool for assessing the implications of forestry out-grower schemes (Box 4). This framework outlines the characteristics that appear to have a major influence on the extent out-grower arrangements are fair and beneficial for each partner (or potential partner). It may also be of value to organisations considering the establishment of, or support for, an out-grower scheme.

Positively, many governments have demonstrated a capacity to create the necessary conditions for beneficial forestry out-grower schemes to emerge. However, it is likely that on-going support will be required to ensure the expected benefits are delivered over the long-term to all parties involved (directly or indirectly) with out-grower schemes (eg. role for government, non-government organisations, civil society groups, market intermediaries), particularly when there is little incentive or commitment of either partner to contribute fairly to arrangements.

#### **Box 4: Framework for assessing forestry outgrower schemes**

##### ***Principles***

- ?? Mutual acceptance of each partner's aims under the arrangement;
- ?? Fair negotiation process where all partners can make informed and free decisions – including allowance for a third party to negotiate on their behalf;
- ?? Realistic prospect of all partners being able to derive benefits proportional to their contributions and risks; and
- ?? Long-term viability and commitment of partners to optimise the returns from the arrangement – in terms of commercial, socio-cultural and environmental attributes.

##### ***Criteria***

- ?? Positive local socio-cultural, policy, economic and environmental context for all the principles (noted above) to develop;
- ?? Partners have a willingness and capacity to contribute to arrangements within the socio-economic and environmental parameters of their household/business over the contractual period – with opportunities for re-negotiation or inherent flexibility within contracts (ie. partners need to avoid high risk arrangements);
- ?? Arrangements are formalised (ie. have legal status) with clear details of when and how multiple benefits can be arranged (eg. collection of NTFPs, grazing, inter-cropping), contracts can be nullified, and compensation would be forthcoming. It would also appear useful for a credible and independent third party to be nominated to arbitrate if disagreement arises;
- ?? Partners have access to accurate, in-depth and independent information on the:
  4. likely short- and long-term prospects – with contingency scenarios explored if arrangements are nullified;
  5. current and likely long-term viability of prospective partners; and
  6. likely long-term context for local forestry development (eg. market trends – product volumes and competitiveness, necessary infrastructure, government policy, code of practices, local SFM practices, landholder/grower participation, wider community support).

How these principles and criteria translate to any given local context will vary depending on the extent:

- ?? entering into out-grower arrangements out-weighs the opportunity costs for both partners;
- ?? partners are informed of the commercial prospects and wider implications;
- ?? regional markets provide positive commercial returns for both partners;
- ?? partners remain motivated to contribute to arrangements – reflecting the importance of schemes to the viability of the household/business;

- ?? government has a willingness and capacity to develop encouraging policies and procedures;
- ?? community perceptions of out-grower schemes and potential partners are favourable; and
- ?? institutional support is available for providing market information and a fair negotiating context.

## 6. Conclusions and recommendations

Out-grower schemes are an emerging feature of forestry development in many countries, yet the socio-economic value of such schemes is still to be fully assessed. Furthermore, there is little available literature to suggest the criteria for assessing the viability and fairness of forestry out-grower schemes.

The main aims of this study were to assess the extent and main characteristics of forestry out-grower schemes globally, with an emphasis on developing countries, and develop an analytical framework to assist the comparative analysis and development of existing and future out-grower schemes.

This study provides a broad overview of forestry out-grower schemes in operation around the world. A major component of the study was to survey forest industry staff who manage out-grower schemes. A response rate of 21% was received to the study's questionnaire. Given the limitations of the study (refer to Section 3.2), it cannot claim to be a comprehensive review of all forestry out-grower schemes in operation. While the study's initial aim was to undertake a comprehensive review, on reflection it appears this aim was overly optimistic given the level of funding for the study. Nevertheless, it has revealed many important aspects of out-grower arrangements that need to be considered when assessing strategies for forestry development. This report also includes an annotated bibliography of literature relevant to understanding forestry out-grower schemes.

The study's Resource Group was a valuable component to the study, and provided a mechanism for ongoing dialogue between the researchers and experienced people located around the world. A mid-term report of the study was submitted to the project's advisory team at FAO in December 1999, with constructive feedback received.

### Recommendations

Consideration should be given to expanding the study to include feedback from growers participating in out-grower schemes (eg. via field work) and translating the study's questionnaire and reports into additional languages (eg. French, Spanish). A continuing effort to refine and build upon the current out-grower contact list should also be considered.

A fieldwork component would allow the information reported in the study's questionnaires to be verified from other perspectives (eg. growers, NGOs). Few questionnaire respondents reported the participation of a third party in schemes – either NGOs, governments, banks, donors or commissioned brokers/agents, suggesting that third parties have not played a significant role in the out-grower arrangements reported or third parties do not play a role that is valued by forestry companies (ie. majority of respondents). This is an area that should be explored in future research, as the role of a third party has emerged as an important element of our analytical framework.

In summary, we recommend that FAO give consideration to a subsequent stage of the project which has an emphasis on fieldwork in order to:

1. gain in-depth understanding of the growers' perspective;
2. identify the nature and extent of the role (or potential role) of third parties;
3. verify results received via the mailed questionnaire;
4. conduct multi-perspective workshops to refine the analytical framework; and

5. fully document fair and beneficial out-grower arrangements (particularly those that reveal important lessons that can be transferred to other countries or contexts) that are widely viewed as exemplars to replicate.

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**APPENDIX 2: Mailed questionnaire**

**QUESTIONNAIRE – Out-grower schemes (please complete one questionnaire for each out grower scheme, if more than one scheme is known)**

1. Characteristics of the out-grower schemes (an estimate will be useful if exact details are unknown):

a) Name of the out-grower scheme: \_\_\_\_\_

b) Location: \_\_\_\_\_

c) Forestry company involved: \_\_\_\_\_

d) Primary product grown under scheme (eg. pulpwood, logs for sawn timber):  
\_\_\_\_\_

e) Year production commenced: \_\_\_\_\_ f) Period of operation: \_\_\_\_\_

g) Expected number of years until harvest: \_\_\_\_\_

h) Total area planted under this scheme: \_\_\_\_\_

i) Total area planned: \_\_

j) Quantity of product supplied by growers: \_\_\_\_\_

k) Importance of outgrowing for company’s supply (you may wish to express this qualitatively or indicate the proportion of total supply from the out -grower scheme):  
\_\_\_\_\_  
\_\_\_\_\_

l) Number of participating growers: \_\_\_\_\_

m) Typical area planted per grower: \_\_\_\_\_

n) Species grown: \_\_\_\_\_

o) System of planting (eg. agroforestry, woodlot): \_\_\_\_\_  
\_\_\_\_\_

p) Forest products that can be retained/used by the grower (eg. fodder, wood, fruit for home use):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Under what circumstances was the scheme initiated? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What are the contractual arrangements for the out-grower scheme?

a) inputs from the forest processing company: \_\_\_\_\_

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b) inputs from growers: \_\_\_\_\_

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c) responsibilities: \_\_\_\_\_

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d) finance: \_\_\_\_\_

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e) marketing and price: \_\_\_\_\_

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f) other: \_\_\_\_\_

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4. What has been the role of other organisations (financial, NGO's, governments, donors, market broker/agent, etc.) in the scheme? \_\_\_\_\_

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5. What benefits do the partners expect from the scheme?

a) Forest processing company: \_\_\_\_\_

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b) Growers: \_\_\_\_\_

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6. Have the partners obtained the expected benefits?

a) Forest processing company: \_\_\_\_\_

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b) Growers: \_\_\_\_\_

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7. What issues of concern, if any, have arisen for the partners?

a) Forest processing company: \_\_\_\_\_

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b) Growers: \_\_\_\_\_

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8. Has the out-grower scheme been effective in meeting the objectives of the growers and the forest processing company?

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a) What has been the greatest problem encountered? \_\_\_\_\_

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b) What has been the greatest success? \_\_\_\_\_

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9. Over the course of the out-grower scheme have there been any major changes in the scheme (technical or operational)? If so, please describe the changes.

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10. Are there other characteristics which need to be described to understand the effectiveness or otherwise of the scheme more fully? (note: these characteristics may be technical, cultural, social, economic or ecological in nature).

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**Thank you for your contribution.**

Could you please return this questionnaire by **18<sup>th</sup> January 2000** to  
Digby Race (Research Fellow) and Helen Desmond (Research Associate) at the Department of  
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### Appendix 3: Annotated bibliography

Arnold, M. (1997) **Trees as out-grower crops for forest industries; experiences from the Philippines and South Africa.** Rural Development Forestry Network Paper 22a. Overseas Development Institute, London.

Drawing on a number of studies, Arnold presents two long running out-grower schemes in the Philippines and South Africa, operating since 1968, and the mid 1980s, respectively. In the Agroforestry Tree Farming program of the Paper Industries Corporation of the Philippines (PICOP), and three out-grower programmes in KwaZulu-Natal landholders are growing wood for forestry processing companies, with the companies providing an assured market, and a variety of support services to growers. He outlines how the schemes originated and have developed, and analyses the schemes' impacts on out-growers and their livelihoods.

He finds out-grower schemes to be appropriate for forest processing companies when wood is supplied at a lower cost than alternatives would provide, and with a measure of security. The appropriateness of the schemes for growers may be when growers obtain reliable income from other sources, when the land used is not required for food production, when tree growing provides a stable source of income in terms of the price of products, an assured market, and access to technical advice and inputs exists. Land security is important also, although land title may not be essential for this. Finally, out-grower schemes may not be appropriate for people with very little or no land, and hence may not reach the very poor unless different arrangements, providing them with land for tree growing without detriment to food production, are reached.

Problems arise from the terms of agreements between growers and companies in relation to the freedom to sell to other buyers, price for product, the availability of credit, and extension and support. Arnold perceives these problems to arise from a broader institutional issue, that is need to achieve balanced and equitable relationships between growers and companies. He believes growers associations, empowered and trained to negotiate for growers and to provide many of the services required but which are currently only available from the company, need to be formed. He suggests the forestry out-grower schemes may learn much from the agricultural industry which has a long history of working within these relationships.

Curtis, A. and Race D. (1998) **Links between farm forestry growers and the wood processing industry: lessons from the Green Triangle, Tasmania and Western Australia** RIRDC Publication No. 98/41.

This report outlines the nature of the links between small-scale tree growers and the forest industry in these three important farm forestry regions in Australia, namely joint ventures, cooperatives and on-farm processing. The study found that, from the growers' viewpoint, current linking arrangements can be improved. Of primary concern to farmers was the uncertainty about the economic viability of farm forestry, long term market prospects and reliable market information, their capacity to negotiate with the industry, fair returns from joint ventures, market structures, the benefits of farm forestry for land and water degradation, and concern about tax arrangements. The findings pointed to a need to develop competitive regional markets, to make available reliable information about the industry, for industry to demonstrate its willingness to offer fair prices and hence a reasonable share in profits for growers. In addition the industry also needed to demonstrate a long term commitment to farm forestry in regions, either through the development of processing infrastructure or funding of field staff. Finally growers needed to develop the capacity to negotiate appropriate, or choose from a range of grower industry arrangements.

Higman, S., Bass, S., Judd, N., Mayers, J. and Nussbaum, R. (1999) **The sustainable forestry handbook**. Earthscan: London, United Kingdom.

In this book issues concerning the sustainable forestry development are raised. Out-grower schemes are perceived to have potential to contribute to sustainable forest development. Based on the review of out-grower schemes in Brazil, India and the Philippines a range of benefits to growers and companies are identified. Out-grower schemes are seen to make good business sense, and increase the potential social benefit from forest management, and hence enhance support for forest managers, including companies, and the support from others, including communities. A case study of the Swiss Lumber Company scheme is presented.

Makarabhirom, P. and Mochida, H. (1999) **A study on contract tree farming in Thailand** Reprinted from Bulletin of Tsukuba University Forests No. 15.

This document outlines the historical development of contract tree farming. It provides a general description of contract elements. The incentive for processing companies to enter contract arrangements with tree growers is the assurance of a continuous supply of wood from small-scale tree planting. Case studies of contract tree farming are described in relation to the contractual arrangements, the company objectives, farmers' perspectives, and problems and prospects.

The study found that farmers would enter contract tree farming agreements where they experienced poor production or labour shortages. Issues raised by growers were the lack of financial assistance with cost of inputs (fertiliser particularly), poor extension, the discouragement from the company of the diversification of farm production, and the high production risk carried. The author perceived the lack of incentive for farmer initiative in managing trees appropriately to be of particular concern.

Mayers, J. (1999) **Company – community forestry partnerships: a growing phenomenon** Article submitted for publication in *Unasylva*.

A range of formal and informal partnerships between private sector companies and communities are emerging as the importance of forest farms for the production of forest goods and services increases. In his discussion communities may encompass farmers and individuals as well as community groups and cooperatives. To gain an understanding of the arrangements needed to establish equitable partnerships, James Mayers examines a range of existing company - community relationships, including out-grower schemes, and discusses the advantages and disadvantages of these for growing trees outside forests. He outlines some considerations for the development of good partnerships for the secure delivery of forest goods and services.

Out-grower schemes, one of the main formal partnership arrangements, vary. While, in some schemes, growers control production with the company paying the market price on delivery, in other schemes companies may have considerable control over production, or may incorporate fixed prices for products.

Sappi, an international pulp and paper company in South Africa, has run out-grower schemes with farmers since the 1980s. The company obtains trees from about 260 white farmers and 8 000 black farmers covering about 88,000 ha in KwaZulu-Natal. Under this scheme the company provides farmers with marketing and production services, including free expertise, silvicultural training and seedlings. The purchasing agreement is also laid out in the contract. The farmers grow trees on their own, receiving advance payments from the company to assist them in meeting costs which are then

deducted from market price paid at harvest. The earning from trees compares favourably to alternative land uses.

A review of the literature available on company-community partnership arrangements in Brazil, India, Philippines, South Africa, and Australia (Arnold 1997; Clarke, Magagula & von Maltitz 1997; Curtis & Race 1998; Roberts & Dubois 1996) enabled the following lessons for good partnerships to be learned: risk sharing between partners needs to be appropriate to the local context; arrangements need to cover potential fluctuations in market and hence price; growers need to improve their bargaining power to create strong, equitable partnerships; partnerships may have a negative impact on some community members; secure partnerships may require broader cooperation; extension and technical support is crucial; dealing with communities present greater challenges for companies; and the roles of government needs to be clarified and developed.

Race, D. (1999) **Forest company - community partnerships: ingredients for success** Discussion Paper based on a meeting held at the International Institute for Environment and Development (IIED), London, UK on Friday 9th April, 1999.

In this paper the context in which forest company-community partnerships have developed is outlined after a review of the literature. The paper focuses on out-grower schemes and joint venture, while acknowledging self-processing, market intermediaries and grower cooperatives as additional strategies which have developed in the forest industry if contractual partnerships are not preferred. The benefits of partnerships as well as some disadvantages for growers and the industry have also been highlighted. It identifies the following key issues for the formation of effective partnerships; the need for competitive markets, for flexible contractual arrangements, for reliable assessment of long term market stability, and clarity of roles of third parties involved in, or supporting, such partnerships. In summary, four key ingredients were identified for effective partnerships.

Roberts, S. and Dubois, O. (1996) **The role of social/farm forestry schemes in supplying fibre to the pulp and paper industry**. Towards a sustainable paper cycle, sub-study series 6, International Institute for Environment and Development, London, UK.

In this report social forestry schemes supplying wood fibre to the pulp and paper industry are reviewed in Brazil, India and the Philippines, to identify why the schemes were initiated, how they are implemented and the perceived success of the schemes for different stakeholders.

The terms and conditions of the social forestry schemes vary considerably. The findings indicate that social forestry schemes do have a role in providing wood fibre to the industry. However industry and growers have not always found the schemes to be successful. In addition to the need for stakeholders to be involved the negotiations for defining terms and conditions and designing the scheme, the success of such schemes is also dependent the following features for growers to become involved: security of land tenure, access to credit prior to harvest, higher returns than alternative land uses, and secure markets for wood. The main issues of concern for growers identified were the choice they have of the species they plant, their rights to determine when the trees are harvested and to whom they are sold, and the price paid for the trees.

Shingi, P. (1997) **Production and marketing of poplars in India: a case study**. Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, India.

The case study of WIMCO (Western India Match Company), a processing company manufacturing matches in India, was undertaken to understand the factors leading to the development of farmer-industry linkages for the commercial production of wood. To access additional wood resources for production, his company promoted poplar plantations on farm land. The study covers the poplar production from agroforestry systems in three northern Indian states.

The study finds that after motivating a large number of farmers to plant poplar a joint scheme involving WIMCO farmers and the National Bank for Agriculture and Rural development was initiated in 1983. Farmers were offered loans, and also saplings, technical support and guaranteed market by the company. Difficulties with the schemes varied between the regions. However growers were not bound to sell trees to the company. Insecurity of supply became a major issue for the company as growers sold to other buyers, defaulting on loans. Consequently the company altered their strategy, focussing instead on the production of saplings for sale to growers.

Vuokko R. and Otsamo, A. (1998). **Social and technical considerations in establishing large-scale Acacia plantations on grassland and bushland in West Kalimantan, Indonesia**. In Turnbull et al. Recent developments in acacia planting. ACIAR Proceedings No. 82. Canberra, Australia.

In this paper technical paper plantation establishment of *Acacia mangim*, *A. crassicarpa* and *Eucalyptus pellita* in West Kalimantan, Indonesia under a joint venture between a Finnish and two Indonesian companies is presented. The venture is working closely with communities to secure their participation in the venture as holders of traditional user rights. The arrangements under the joint venture are described, and include employment, a range of community and agricultural development benefits, in addition to ownership of a percentage of the plantation area, with the company guaranteeing to purchase wood at current stumpage rates. The effectiveness of the joint venture is demonstrated through the take up by villages which is proceeding without difficulty. At this time the joint venture was operating in 50 villages and plantations covered 15,000 ha.

## Appendix 4: Resource Group

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