Stimulating smallholder tree planting – lessons from Africa and Asia

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Cases from Ethiopia, Indonesia, South Africa and Viet Nam illustrate ways of promoting small-scale and community timber production.

From 1990 to 2005 the area of tropical forest plantations increased from 69 million to 93 million hectares (FAO, 2006). Although plantations account for 11 percent of the total forest area in Asia and the Pacific and only 2 percent in Africa, the two regions share a trend towards increased involvement of the private sector and small-scale producers in plantation establishment, which previously was primarily government controlled (Persson, 2003; Sam and Trung, 2001).

Small-scale forest plantations provide a range of benefits to rural communities, including fuelwood, fodder and wood for building and everyday uses, as well as environmental and amenity benefits. Yet small-scale producers and poor households still reap only a small portion of the commercial benefits from plantation-derived wood and processed wood products, even though plantations in developing countries produce billions of dollars worth of these products annually.

This article describes some different schemes through which smallholders participate in establishing and managing productive plantations. These reflect a continuum from management by tree growers themselves to private corporate initiatives, with government-initiated collaborative management in between. For each of these schemes, the article identifies key incentives – defined as "payments or services that increase the comparative advantage of forest plantations over other land use options and thus stimulate investments in plantation establishment and management" (Enters, Durst and Brown, 2003) – that can promote smallholder involvement in tree planting, although the strategies of course vary according to the country and the local conditions. The article highlights the importance of supportive policies and legislation, and clear, secure forest land tenure and management rights as enabling conditions for sustainable smallholder tree growing.

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Farmers in the Debre Berhan area of Ethiopia plant trees mainly around homesteads

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In Viet Nam, multicrop plantations with forest and fruit trees provide opportunities for low and middle-income farmers to raise their standard of living

FARM FORESTRY IN ETHIOPIA, INDONESIA AND VIET NAM

In Ethiopia, farm-based forestry has been carried out for a century. Starting around 1910, private plantations around Addis Ababa provided the capital with energy and construction material. In the 1970s, the government supported "peasant forestry" based on community ownership, but these plantations deteriorated over time as there were no proper management plans and the relationship between communities and the State in managing and/or owning these plantations remained unclear (Abebe, 1998). The country has not yet put in place a support mechanism to encourage farmers and commercial entrepreneurs to engage in commercial forestry (Million, 2001)

In Indonesia, commercial small-scale farm forestry on community-owned land has been practised since the 1970s and is widely believed to be more successful than industrial plantation forestry carried out by concessionaires on a large-scale in State forest, particularly in terms of landscape and socio-economic benefits (Nawir *et al.*, 2007). Farm forestry accounts for 43 percent of the total forest plantation area in the country, with 3.43 million households involved in managing 4.2 million hectares (FAO, 2001; Ministry of Forestry, Indonesia, 1998). Common species include falcata (*Paraserianthes falcataria*) and teak (*Tectona grandis*).

In Viet Nam, in the 1970s cooperatives began to establish plantations to supply State organizations with raw material. Private farm forestry emerged after the introduction of free-market policy reforms in 1987 and subsequent allocation and privatization of forest land. Since the early 1990s, policies and legislation have supported the development of farm forestry. The Five Million Hectare Reforestation Programme of 1998 envisaged that some 2 million hectares would be reforested by 2010 through private-sector efforts, including farm-based plantation forestry, for the market and to support environmental protection. Since then more than 80 000 ha have been reforested annually (FAO, 2006). Farm forestry has expanded and thrived also in the industrialized regions of the country (Sam and Trung, 2001).

Varied agroforestry systems have evolved, reflecting the needs and conditions of different socio-economic strata.

Key incentives for farmers

Expected returns from planted timber. Smallholders involved in farm forestry are mostly self-financed. The expected returns are usually sufficient incentive for plantation maintenance. However, governments have often provided free seedlings to smallholders. In three provinces studied in Viet Nam (M. Sandewall, B. Ohlsson, K. Sandewall and L.S. Viet, in preparation), opportunities to borrow money from banks for investment in forest plantations were rarely available to or used by smallholders.

Unique market niche for wood produced through farm forestry. In Java, Indonesia, smallholder farm foresters have a market niche in small home industries. These enterprises often prefer to buy logs (e.g. teak) sourced from farm forestry to avoid difficulties of bargaining with big processing companies; to negotiate prices more easily, since no standardized price applies; and to take advantage of simpler administrative procedures and frequently shorter distances. However, despite this opportunity, smallholders rely on intermediaries (timber brokers) to harvest and transport the wood to the

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Small-scale private nurseries – entrepreneurship in the forest industrial region of northern Viet Nam

buyers. Consequently, these tree growers have little bargaining power over prices. In northern Viet Nam, markets for farm-produced timber include the mining industry, fuelwood consumers in urban centres and the exporting chip industry. A major market force is the Bai Bang Pulp and Paper Mill, which purchases some 200 000 tonnes of wood per annum, all from a large number of small, mainly farm-based producers.

Risks and transaction costs borne by intermediaries. Intermediaries may capture the highest proportion of profit margins, but they also bear a number of risks and have high transaction costs relative to tree growers. They collect mixed-quality timber from a large number of growers, and receive low prices for low-quality wood. With prices uncontrolled, they have to negotiate prices with many buyers and sellers. They also have to deal with the authorities and bear the cost of government restrictions on postharvest processes, including wood transport, which is often smoothed through bribes. Removing or reducing the restrictions could eliminate these informal "fees" and help intermediaries offer better prices. At the same time, it becomes crucial to empower smallholders by improving their access to markets and market information, so they can bargain for better prices.

GOVERNMENT-ASSISTED INITIATIVES: COLLABORATIVE PLANTATION MANAGEMENT IN INDONESIA AND ETHIOPIA

The Governments of Indonesia and Ethiopia have initiated collaborative plantation management programmes to address growing problems of illegal logging and forest encroachment by involving local communities. These governments expect that by allocating communities rights to establish and manage plantations for certain periods and by guaranteeing them a share in the profits from the timber, they can help strengthen the communities' commitment to sustainable forest management.

Collaborative plantation management involves local community cooperatives or collective groups and different levels of government, e.g. provincial or district. In Ethiopia, since about the 1990s, the government has allocated some plantations (generally *Eucalyptus* spp.) for communities to manage. In Indonesia, this form of management has been rapidly expanding since the implementation of decentralization policy in 1998. The government has most recently given priority to plantation development by rural smallholders on 5.4 million hectares through its Community-Based Plantations programme (Ministry of Forestry, Indonesia, 2006).

Key incentives provided by government

Direct incentives to plant. Governments have long given subsidies or financial incentives in a range of packages that can include plantation establishment funds, physical inputs, free seedlings, paid labour for government projects and loan schemes. However, maintenance costs are often excluded. In Indonesia, the source of these direct incentives is usually reforestation funds, which are government revenues from timber concession companies allocated to finance rehabilitation of degraded forest (Nawir *et al.*, 2007). Despite their long history, direct incentives may have marginal impact. They may even lead to the misdistribution of funds and can discourage tree planting (Enters, Durst and Brown, 2003). To be effective, financial incentives require supporting policies and conditions, such as secure tenure (Williams, 2001).

A guarantee of shared profits from the harvested timber. Guaranteed equal and fair profit-sharing agreements between State and community groups have attracted many smallholders to tree planting, for example in Ethiopia and the Philippines (Calderon and Nawir, 2006). In Indonesia, this strategy is still strongly debated, with many believing that the government should not function as a business entity that receives revenues from plantation timber.

Long-term management rights. Governments have increasingly granted community management rights of 25 to 60 years, following political economic changes that favour greater community involvement in forest management, including forest plantation development. Such a policy has been applied in Ethiopia since around the 1990s and was adopted in 2007 in Indonesia. In Ethiopia, new regional land administration policies allow issuance of landownership certificates to landholders, and owners have the right to lease their plots to others for up to 25 years; however, land still cannot be officially bought or sold.

CORPORATE INITIATIVES: OUTGROWER SCHEMES IN SOUTH AFRICA AND INDONESIA

Outgrower schemes in South Africa were initiated by two major corporations, Sappi (since 1983) and Mondi (since 1989), which teamed up with smallholder eucalypt plantation growers in the communal lands of KwaZulu Natal, along South Africa's eastern coastline. The schemes arose from the need for land to produce raw timber for expanding mill development. Today more than 10 000 smallholders, of whom 80 percent are women, grow eucalypts on a contract basis for Mondi and Sappi (Chamberlain *et al.*, 2005).

Indonesian corporations introduced outgrower schemes in 1999/2000 to resolve long-term land conflicts inside their concessions (Nawir, Santoso and Mudhofar, 2003). Although there are no official statistics on total outgrower areas, a growing number of companies are working with outgrowers as part of their commitment to corporate social responsibility. For example, ten

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Smallholder plantation in Zululand, South Africa

Acacia mangium plantation companies have outgrower schemes covering about 180 000 ha, which is about 11 percent of their concession areas (A.A. Nawir and ComForLink, in preparation). Companies consider this to be an effective approach for ensuring a sustainable supply of timber while sharing the benefits (and risks) with local communities. Furthermore, it provides smallholder outgrowers with an option to use their idle lands for future economic returns.

Key incentives for outgrowers

Capital assistance in tree growing and maintenance. Companies using outgrower schemes provide strong incentives for smallholders to enter into partnership under a contract agreement, in line with the local conditions and the partners' needs, by guaranteeing fair prices, providing communities with social services and forming growers' associations or committees as channels for discussing issues of mutual economic interest. The company places the responsibilities for supervising jointly managed lands and trees, such as protecting them from theft and/or fire, in the hands of tree growers. To address the capital constraints, Sappi and Mondi pay an advance – loosely based on the land rental price – once the smallholders have successfully developed plantations. This payment is essentially a loan advanced against the value of the trees at the time of harvest. Other incentives include access to improved *Eucalyptus* clones, often at subsidized cost; inputs at competitive prices; training and extension programmes; and assistance for elderly residents with sufficient land but no ability to provide labour. Companies also bear all the costs for harvesting and transportation to the mill gates, which are subcontracted to other community members.

Guaranteed markets, although prices need to be negotiated. The degree to which companies provide a guaranteed market varies from one outgrower scheme to another. In monopsony (one buyer) situations, e.g. acacias grown by smallholders in Sumatra, Indonesia, companies tend to buy at low prices. With growing local markets for some hardwood species, companies have to buy at competitive prices or growers may prefer to sell their wood elsewhere. In South Africa, during periods of oversupply the companies have introduced a quota delivery system giving the contracted growers preference over independent growers. When sources of wood have been scarcer, quotas have been abandoned and some growers have preferred to sell independently at market prices.

Assistance during the period between planting and harvesting. The long period from first planting until harvesting (at least six to eight years even for fast-growing species) is a problem for communities with few income alternatives. To overcome pressing cash flow problems of low-income smallholders during this period, Sappi introduced additional interest-free annual advances for plantation maintenance and firebreak protection. Mondi charges 10 percent interest on similar loans. In Indonesia, one solution has been to provide outgrowers with some land for non-forestry cash crops.

ENABLING CONDITIONS FOR SMALLHOLDER ENGAGEMENT IN TREE GROWING

The most important enabling conditions for smallholder production are favourable policies across different aspects of management and marketing; and clear and secure land tenure and rights over crops, including the right to manage, harvest, transport and market produced wood. Increased awareness of corporate social responsibility, defined as "the continuing commitment by business to behave ethically and contribute to economic development while improving

In Sumatra, Indonesia, competing income opportunities from oil-palm plantation may influence tree growers to break their contract agreement under* Acacia *outgrower schemes

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the quality of life of the workforce and their families as well as of the local community and society at large" (World Business Council for Sustainable Development, 1999), might also encourage large private and State enterprises to give more serious attention to facilitating smallholder tree growing.

Policies supporting tree planting

A clear policy framework for securing community rights to manage State forest, and supportive local regulations in line with local community initiatives, have been key to successful smallholder farm forestry and collaborative plantation management in Indonesia (Nawir *et al.*, 2007).

In Ethiopia, a recent forest policy provides farmers tax incentives that are proportionate to the number of trees they plant. The government also encourages the private sector to invest in forestry. It has lifted controls on pricing and marketing of forest products, paving the way for an open and competitive market for wood. Farmers now face little restriction in selling tree products.

In Viet Nam, both general policy (the development of a free market) and specific policies and legislation have supported farm-based private plantation forestry.

Clear and secure tenure

South Africa provides an interesting example of how and why smallholders have planted trees to secure rights to their land in communal areas. The government intended to establish tree plantations in communal areas along the coast to stabilize dunes. Under threat of being evicted from their area, households decided to plant eucalypts themselves. Under the patriarchal land tenure system of the Zulu, a widow can secure tenure over her late husband's land by planting eucalypts. Outgrower schemes have played a critical part in helping women obtain tenure under this system (Cairns, 2003).

The new Forestry Proclamation in Ethiopia recognizes private forest ownership and encourages joint State–community management of forests. It also ensures ownership security and transfer rights over lands planted with trees in accordance with the new Federal Land Use and Land Administration Proclamation. Land redistribution is becoming less frequent in Ethiopia, and policy-makers are also taking some measures to address tenure insecurity, for example policies that allow issuance of landownership certificates to landholders, as discussed earlier.

Much of the natural forest in the mountainous parts of Viet Nam was logged and cleared for shifting cultivation during the 1960s, 1970s and 1980s. The allocation of land (conferral of formal long-term tenure rights) to individual households and entities around 1990 had an almost immediate positive impact on the number of forest and cash crop plantations established by smallholders. From 1990 to 2005 the productive forest plantation area in Viet Nam increased 7 percent per year, mainly through farm-based initiatives (FAO, 2006).

Growing global attention towards corporate social responsibility

Companies such as Sappi and Mondi in South Africa have an incentive to promote smallholder schemes not just to make profits, but also to be seen as socially and environmentally responsible. They need to demonstrate – not just to the government, non-governmental organizations and the community, but increasingly to their shareholders – that they engage in a fair and transparent commercial process with smallholders from poor communities. International certification by the Forest Stewardship Council (FSC) has conferred a badge of corporate social responsibility on these corporations. Despite these positive signs, there have been calls to empower smallholders more by increasing their bargaining power (Chamberlain *et al.*, 2005; Howard *et al.*, 2005; Cairns, 2003; Mayers and Vermeulen, 2002).

Some 40 percent of the forest area in Viet Nam is owned by State Forest Enterprises, which historically employed a large workforce. The system is currently being reformed, and State forest plantations are gradually being replaced by farm forestry. A concern for State Forest Enterprises is how to provide jobs and livelihoods for its former workers. Leasing out the management of its forests to farmers and entrepreneurs is a common practice in line with corporate social responsibility.

CONCLUSIONS AND RECOMMENDATIONS

Smallholders are involved in plantation timber production through various schemes. Farm forestry has been driven by expectations of returns from wood selling. Collaborative plantation management aims to involve communities in addressing the problems of illegal logging and forest encroachment. Outgrower schemes in South Africa have been driven by the companies' needs to secure their raw materials, while in Indonesia the primary driver has been tenure conflict, which can severely disrupt a company's operation. Each of these schemes requires different financial and other incentives to stimulate smallholder involvement in tree planting.

Locally and nationally recognized systems of secure access to land, supportive policies and legislation, and reliable and stable markets have contributed a great deal to the establishment of private, farm-based plantation forestry. In a national context the aggregate impact of farm-based tree plantations in Asia and Africa is considerable. Empowering smallholders – specifically by improving their access to markets and market information and by offsetting high transaction costs – is also important, to sustain benefits generated from small-scale plantations and thus to provide investors confidence to invest.

Governments can address some of the tenure-related problems by developing mechanisms such as collaborative forest

management arrangements. Governments and non-governmental development groups must do more to help smallholders improve the marketability of their products in local and international markets and increase their bargaining power. Mapping of industries and their buying capacities is vital to improve understanding of potential markets. Assisting small-scale producers to label their products could help in entering the "fair trade" market niche. Governments can also provide marketing incentives such as lower taxes and ensured raw material sources for firms that buy products from community-based forest management projects.

Corporate–smallholder partnerships in plantation forestry are increasingly promoted as a means of ensuring tree growers access to markets. Issues that require attention in this regard include how to secure and maintain markets, obtain rewarding prices for producers, provide technical assistance to ensure adequate product quality and quantity, and develop favourable strategies for low-income smallholders during the period between planting and harvesting. The success of these partnerships depends, however, on company and community working creatively to develop incentives for mutual benefits. Further, government participation and support through the establishment of enabling regulations are indispensable in creating a secure environment for investing, trading and doing business in general. ◆

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