

Looking to the future

The options open to smallholders to ensure their survival in the pole production chain

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Tree growing in western Kenya is emerging from a subsistence activity into a semi-commercial forestry business. As such, the business needs to be supported by access to guaranteed markets and technical assistance.

It is essentially a private sector initiative, where profit is the main driver, although the government plays a role through institutions like the Kenya Forest Service (KFS) and the Kenya Forestry Research Institute (KEFRI), which provide relevant information to farmers.

Pole production has been expanding steadily over the last 10 years, based on competitive land use principles, meaning that farmers have realised that growing trees can be more profitable than growing maize or dairy farming. More treatment plants have been established, with greater capacity to handle trees.

The growers and processors form a forestry business link that revolves around efficient supply and delivery from the farms to the plants. However, individual growers have not been able to command economies of scale to enhance their bargaining power, and collective action at that level does not exist.

The farm forestry sector players include the growers, small-scale entrepreneurs and forest-based businesses that need to be linked through some efficient operational engagements.

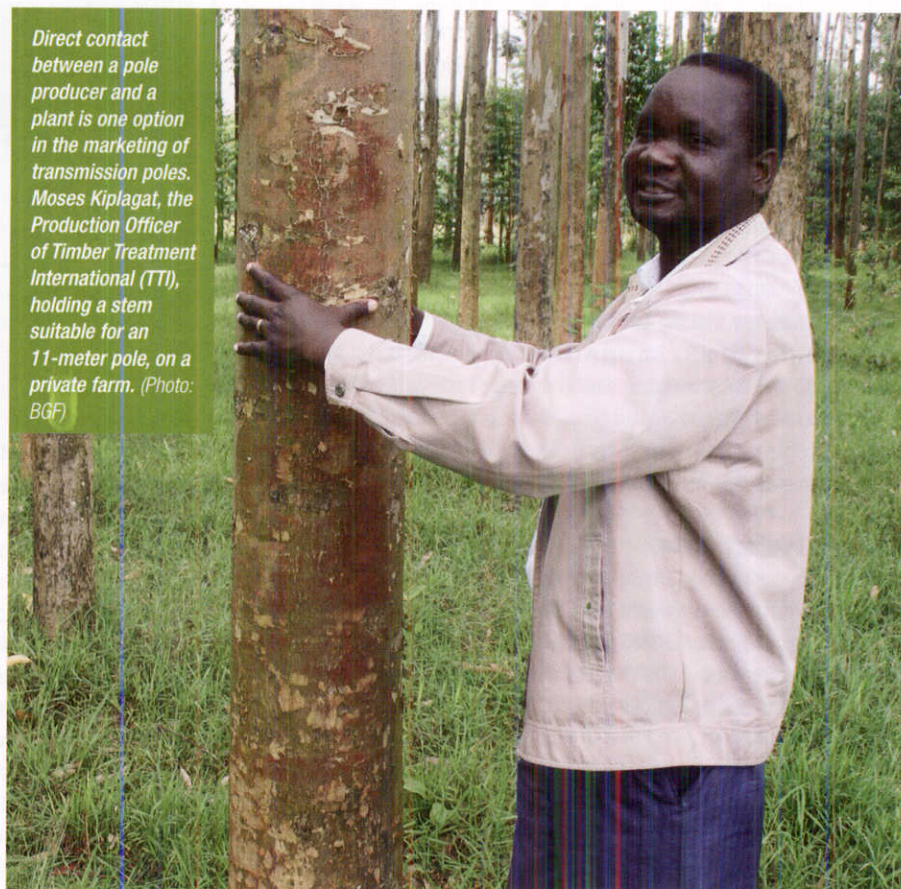
Medium- and large-scale growers who can supply large volumes of the required pole quality, regularly, will in the end marginalise smallholders unable to organise themselves. In the short run, limited availability of land for large tree plantations means that industries have to work with smallholders, but it is in the interest of industries to deal with big volumes to reduce their overheads.

Promotion of market linkages

There can be cooperation between firms with similar operations - horizontal integration - or between enterprises at different levels of the supply chain - vertical integration. The link between smallholder growers and treatment plants is then a vertical integration.

However, smallholder growers in general are subsistence or semi-subsistence farmers,

Direct contact between a pole producer and a plant is one option in the marketing of transmission poles. Moses Kiplagat, the Production Officer of Timber Treatment International (TTI), holding a stem suitable for an 11-meter pole, on a private farm. (Photo: BGF)



usually producing a variety of commodities. They will not cultivate unless they know they can sell, while traders and processors will not invest unless they are assured of a constant supply of a product that can keep them in profitable business.

A contract that links the smallholder to the processing business offers a potential solution to this situation. Contracts constitute an important form of cooperation that can mitigate the weak bargaining position of scattered individual smallholders.

Smallholder producers are also characterised by seasonality in production and inter-year variability in output that cause price variability and unstable farm incomes. Therefore, access to guaranteed markets can reduce this price uncertainty and motivate producers to increase volumes and take measures to stabilise production.

Cooperation between smallholder tree-

growers and industrial processors can overcome these limitations, through arrangements like advance payments for contracted produce, and guaranteed prices.

It is in the interest of everybody that the existing smallholders transition from subsistence volumes to commercially oriented production.

Potential market linkages

To evaluate the potential viable market linkages for smallholder tree-growers in western Kenya, KEFRI undertook a study that involved key players in the transmission pole market chain. Various theoretical market linkage models were considered and put to the test, based on practical experience and financial viability. The results were discussed in three stakeholder workshops in Eldoret, Kapsabet and Koru. Where possible, the model is illustrated with a successful experience.

1. THE PRIMARY MARKET MODEL: FARMER — TREATMENT PLANT

This is where tree-growers decide to sell their mature poles straight to treatment plants or any other forestry business. The arrangement may involve the growers harvesting and delivering the products themselves, or through a contracted agent or relevant forestry business. It also presumes that prices and costs remain constant for the specific operations.

Advantages

- Less risk if operations like selection, harvesting and transport are undertaken by the forestry business.
- Less expensive to smallholders.
- More reliable because no agents are required.

Disadvantages

- In a highly standardised business like transmission poles with stringent specifications, it is risky for a smallholder to carry out the operations and to deliver, due to high rejection rates.
- The farmers have inadequate skills and equipment to select, fell, log, handle and transport the poles to the treatment plants.
- Individual farmers do not always have enough poles to fill a vehicle(s).

Viability

The assumptions are that the farmer has invested in 1 hectare of *Eucalyptus grandis*, with a spacing of 3 x 3m and an initial stock of 1,100 trees. At the age of 8 - 9 years, 30 per cent of the stock is not up to specifications for poles because of deformities and defects, and 70 per cent or 770 trees can be sold. Costs are based on standard experiences in the field, and current prevailing prices in the market. The farmer makes up to Ksh 2 million per hectare (see Table 1).

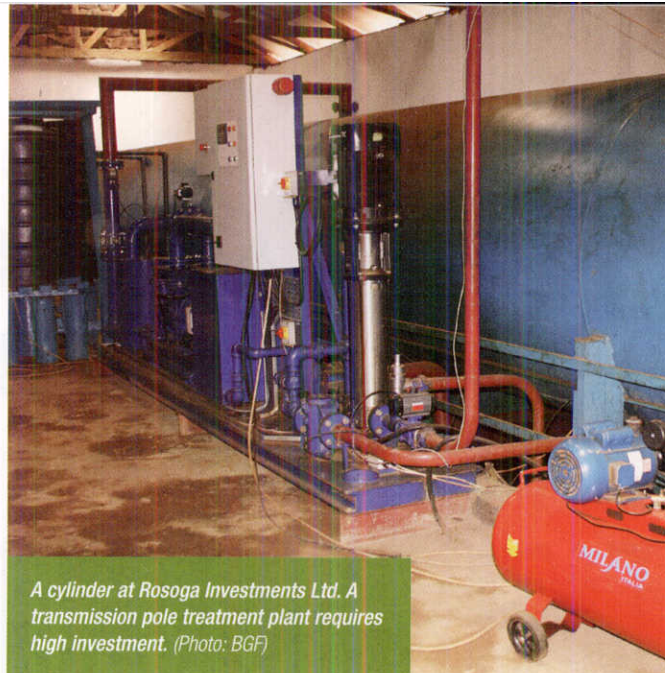
Example: Project Grow

This is a successful tree-farming scheme in South Africa, run by SAPPI, a major South African forestry company specialising in paper production from tree fibre pulp. The scheme incorporates subsistence farmers with access to 1 - 20 hectares of land. SAPPI, the Gencor Development Fund and the Kwazulu Department of Agriculture and Forestry launched the project in 1983.

The scheme now involves 4,500 farmers, owning 19,200 hectares of land, with farms mostly located within 100km of SAPPI's pulp mill. The farmers currently produce 5.6 per cent of SAPPI's intake of pulpwood (185,000 tonnes of timber per year).

Table 1: Farmer income per hectare of woodlot in Uasin Gishu for model 1

	ITEM	QUANTITY	UNIT PRICE (KSH)	TOTAL PRICE (KSH)
1	Income			
	Sales	770	3,500	2,695,000
2	Costs			
	Establishment and management			100,000
	Permits			1,500
	Transport			616,000
	Loading and off-loading			20,000
	Felling			10,000
	Debarking			22,000
	Sizing and drying			10,000
	Other general expenses			11,500
	Subtotal			791,000
3	Balance or net undiscounted income			1,904,000



A cylinder at Rosoga Investments Ltd. A transmission pole treatment plant requires high investment. (Photo: BGF)

Key to the success has been the availability of technical advice, free seedlings, financial assistance in the form of interest-free loans covering farming costs and annual maintenance, to be discounted from payment at clear felling, and a guaranteed market.

The growers must sell their timber to SAPPI, by contract, and the timber must comply with stated mill specifications. The price is negotiated and corresponds to prevailing market rates. There are monthly Project Grow meetings and all notices to the growers are delivered personally by the company or at the meetings.

Kenya has a good example in the fresh vegetable export market, with vegetables being produced to international standards by smallholders, and supported by the Horticultural Development Authority (HCDA).

2. THE SECONDARY MARKET MODEL: FARMER — MERCHANT — TREATMENT PLANT

This arrangement involves intermediaries such as merchants that link the grower to the processing business. The merchants buy the logs at a cheaper price, and sell at a relatively higher price to cover their costs and realise a profit. They buy the standing trees at their cost, and cover all the operations up to the sale to the treatment plant. The farmer does not incur costs, except in the growing of the trees.

Advantages

- The agent can negotiate better prices per tree, which partly flow back to the grower, at competitive market rates.
- The model is profitable in the short-term.
- The grower does not incur costs as these are taken up by the merchant.
- The merchant bears the logging and marketing costs and risks.
- Larger spread of benefits as more growers are reached, notably those with smaller stocks (woodlots/individual trees).

Disadvantages

- Less profitable in the end for the grower.
- Only suitable in conditions where farmers have limited information on the market.
- Open to sudden price changes dictated by the treated transmission pole market.

Viability

The assumptions are the same as in model 1.

Table 2: Farmer income per hectare of woodlot in Uasin Gishu for model 2

	ITEM	QUANTITY	UNIT PRICE (Ksh)	TOTAL PRICE (Ksh)
1	Income			
	Sales	770	1,500	1,155,000
2	Costs			
	Establishment and management			100,000
	Permits			-
	Transport			-
	Loading and off-loading			-
	Felling			-
	Debarking			-
	Sizing and drying			-
	Other general expenses			-
	Subtotal			100,000
3	Balance or net undiscounted income			1,055,000

The average farm gate price is Ksh 1,500 per pole, covering an existing range of Ksh 1,200 - 2,000. It is noteworthy that merchants are in business throughout the year, as opposed to smallholders, and as such are preferred by treatment plants. The farmer makes Ksh 1 million per hectare (Table 2).

If the proposed Kenya Power purchase price for poles goes down by 30 per cent, farmer incomes will be reduced and profit margins squeezed. Farmers with fewer than 10 -20 poles risk being cut off from the market. In the end, this might happen anyway, with economies of scale dictating a redesign of supply networks, and well-to-do farmers investing in land purchase to increase their productive capacity.

3. THE CROSS-CUTTING MODEL: FARMERS INVESTING IN PROCESSING PLANTS

This model, where farmers organise themselves and invest in industrial processing, could not be tested in the field because it does not exist in Kenya.

Currently, the establishment cost of a medium-sized treatment plant, including purchase and installation of cylinders, chemicals, land and infrastructure, staff and operational costs, is in excess of Ksh 20 million. This is out of reach for many farmers, although the example of NCT Forestry Cooperative in South Africa shows it can be done.

The crosscutting model presumes the following:

- The tree-growers have strong producer and marketing associations with common business objectives.
- The tree-growers associations have sufficient funds to cover purchase of machinery and associated operational costs.
- The forests to be harvested meet the capacity requirements of the processing facility.
- The farmer and associations can organise finances to cover harvesting, transport and processing costs.

Advantages

- The farmers will get the best pricing for their produce as the savings of the integrated approach are passed on to them.
- The model is likely to be profitable in the end.

- It is relatively less expensive to the tree-growers as the association takes up the costs.
- It is less risky to the tree-growers as the association takes the logging and marketing risks.

Disadvantages

- The model is expensive due to the high initial costs for machinery and associated installation and operational costs.
- It has to rely on professional managerial, record-keeping, accounts and marketing services.
- It requires tree-growers to be informed on various tasks within the market chain to enable full participation in various decision-making processes.
- It requires favourable policies and legislation for collective management and decision-making entities.

Example: NTC Forestry Cooperative Ltd

This cooperative was started in 1949 in Natal Province (now Natal Kwazulu), South Africa, by 28 black wattle (*Acacia mearnsii*) growers who wanted better prices for their wattle bark through collective bargaining. Together they controlled 8,000 hectares, and members bought one share for every acre of wattle they owned.

A share certificate of one of the founding members on the cooperative's website shows that the farmer owned 25 acres. Today, the cooperative has 2,000 members, representing 300,000 hectares, which is 21 per cent of afforested land in South Africa. The cooperative has three chipping mills, and offers marketing, logistics, harvesting, tree-farming, silviculture, technology transfer, tree improvement and mapping services. It is a private undertaking, with no government involvement.

The farmers made it through strong leadership with tough negotiating skills. Another factor was continuous emphasis on quality, translating into the establishment of an extension service to push correct practices for quality seedlings, management and products. Other core values are professionalism and good corporate governance; communication at all levels and a clear strategy based on good analysis of information.

Summary and recommendations

There are prospects for contract supply agreements between private tree growers and major forestry businesses in western Kenya. However, the generally small land holdings limit the capacity of growers to produce sufficient quantities. The industry itself is not willing to engage in long-term contracts because of the long production cycle of the poles, the changing market dynamics and the family management structures on land and land use that create uncertainties on the ability of the growers to oblige with contractual agreements.

The forest businesses are however willing to enter into short-term supply contracts with farmers with mature trees to harvest.

The future of merchants is uncertain. As more medium-scale growers enter the market and industries cut down on costs by investing in more cost-efficient logging and skidding equipment, they will by-pass intermediaries.

Small subsistence tree-growers are now served through merchants, but in the future might be squeezed out of the market.

Farmers in western Kenya have not organised into bigger units like cooperatives, although initiatives like the Kenya Forest Growers Association (KEFGA... see article on page 18) might fill this gap.

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