The future of powersaw splitting (chainsaw milling) in Kenya

Powersaws are commonly used in Kenya to split logs into timber but their use is rarely considered in national planning. Here it is suggested that chainsaws have an important part to play in supplying timber, and increasingly so through improvements in operator skill and the technologies employed, especially that of powersaw milling attachments. This is a policy brief aimed at organisations involved in timber production and processing in Kenya and East Africa at all levels including the government, NGOs, CBOs, international organisations and businesses involved in the manufacture, importation and distribution of associated equipment and machinery.

The 1999 Forest Act changed everything relating to logging in Kenya. Pressure from environmental groups led to the logging ban from state forests. This caused the rapid closure of around 450 sawmills throughout the country. Pessimists said it would destroy the entire the timber industry, but they were wrong as farms quickly met the deficit. In fact land outside forests had been supplying timber for many years but few had noticed. Even in 1995 it was estimated that over half of Kenya's wood supply came from farms, 62% by 2000, and estimated to become 72% by 2020. Natural forests are likely to continue to be largely conserved for biodiversity so plantations will produce the rest.

Powersaws good or bad?

Powersaws are used for milling entirely 'freehand' in Kenya. With chain depth gauges removed and only the end of the bar used, this is easily the most dangerous way of milling timber in the world. Only the most skilled operators can produce timber of any quality, otherwise boards are wavy and tapered, and all have a rough surface finish typical of freehand milling. Whereas some powersaw operators are involved in illegal activities in state forests, most are perfectly legal, making a living from felling, milling, and/or working in combination with bench saw operations. Still, wastage is high, and there are demands from forestry services to improve recovery and timber quality. Powersaw splitting with attachments had already been identified as one means to achieve this, and fortunately a project was at hand to deliver this opportunity.

The first cut with a frame mill and homemade 'slabbing rails'. The first 'Alaskan'-sawn Grevillea in Kenya

Milling edged boards with an Alaskan mill in Meru.

Powersaw milling attachments in Kenya today

Two demonstration/training courses on powersaw milling were carried out in Baringo and Meru in February 2006, in collaboration with KEFRI and ICRAF, part of a UK government funded Forestry Research Programme project. Four different powersaw mills were used which had never been seen before by any of the trainees or support staff. Even though some of them are over 50 years old, their potential application in Kenya has not previously been considered. Normal perhaps, considering it is not so many years since freehand powersaw milling has become so widespread. Links have been made between importers Protech and KEFRI (Nairobi), and Granberg (USA), manufacturers of a range of low cost 'Alaskan' frame and rail mills, and it is hoped that they will be on general sale shortly.

But how can we find out if they really make sense?

A global literature review part of the same project identified general areas where chainsaw milling makes more sense, looking specifically outside forests. In addition, information was collected from around Meru, and a framework and decision-making tool is available (see footnote). Due considerations are given to environmental and social aspects, before a spreadsheet allows users to input data on, e.g. costs, time, prices, to see if chainsaw milling makes more economic sense than the alternative tractor mounted circular bench saw.

See the difference. Ripping chain over freehand chain, even with both in an Alaskan frame milling attachment.

The current situation

On many areas of farmland, the large trees are all gone, and though lots more have been planted it will be some years before these mature. Such unsustainable exploitation will therefore be replaced with a balance between felling and planting. Much is also about to change when the new Forest Act 2005 becomes law. The state Forest Department will become the parastatal Kenya Forest Service (KFS) and will have to raise some of its own funding. Farm forestry is to receive the support it deserves, and there are also clauses to allow exploitation of state plantations for sawn timber again.

Many are calling for plantations to be 'opened up' to take pressure of farmland, but this may have other effects. Many farmers have planted seedlings on the basis of money earned from trees sold. Releasing plantations may cause timber prices to fall, leading to an unexpected loss of livelihoods for farmers and bench saw operators, who are unlikely to be able to bid for large concessions. A rural stewardship or similar scheme is needed to provide indirect support for farmers, and smaller concessions and promoting associations are needed by bench saw operators.

Practical ways forward

- Optimise recovery and timber quality from different mills through research and development (KEFRI).
- Develop alternatives to petroleum-based chain oils, e.g. from oil palm or maize (KEFRI).
- Provide information to farmers to allow them to accurately value a standing tree, and estimate its worth if converted into timber (MoA, KFS).
- Increase farm forestry extension, tree management, species, planting, etc. (MoA, KFS, ICRAF).
- Encourage more group/community nurseries (MoA, KFS, ICRAF).
- Employ more foresters as trained advisors (KSF).

Suggested policy changes

These were voiced by at least two people interviewed in Kenya, from state, NGO or private backgrounds.

- Reduce import taxes on milling attachments, ripping chains and chain oil, at least temporarily, to promote their uptake and availability (GoK).
- Harmonise government acts related to land ownership and use, e.g. the Lands Act, Agriculture Act, Water Act (GoK).
- Reactivate a Forestry Training Centre (KEFRI, KFS).
- Develop a national chainsaw training course (safety, use and maintenance) for operators (KEFRI, KFS).
- Develop a chainsaw milling training course, involving manufacturers and dealers, for chainsaw owners, operators and timber users (e.g. furniture manufacturers) (KEFRI, KFS, FAN, etc.)
- Clarify the policy on charcoal production, transport and trade (KFS).
- Undertake an accurate inventory of standing timber and estimated growth rates, and timber movements between districts as well as internationally (KFS).
- Record tree felling nationally based on permits issued, collected systematically from the District Environmental Committees (NEMA, KSF).
- Apply pressure on KTDA (Kenyan Tea Development Authority) and BAT (British American Tobacco) to support tree planting, as they are buying ever more trees as fuel for drying (GoK, KFS, FAN).

Chainsaw milling Prosopis juliflora with a Small Log Mill in Baringo, Kenya

Main stakeholders to take action:
GoK – Government of Kenya
KFS – Kenya Forest Service (formerly the Forest Department)
KEFRI – Kenya Forestry Research Institute
MoA – Ministry of Agriculture
NEMA – National Environmental Management Authority
ICRAF – World Agroforestry Centre.
FAN – Forest Action Network.

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This publication is an output from a research project funded by the United Kingdom Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID. R8510 Forestry Research Programme.
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