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Private Forestry timber marketing, value adding, and sustainable management certification in North America, Europe, Scandinavia and Japan.

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'Don't let anyone tell you a small group of committed people can't change how things are done. On the contrary, it is the way change normally happens.'

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Introduction and acknowledgements-

Firstly thanks to the Churchill Trust and their Victorian Executive for making this generous grant available for my study trip.
And thanks also to my colleagues in the Corangamite Farm Forestry Network, the SMARTimbers cooperative, and the Private Forestry section of what was then the Department of Natural Resources and Environment Victoria (DNRE). Finally to my family, for feeding my dogs, controlling the vermin in my house, and paying my bills.

Summary

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Project description **To study the management of forestry cooperatives and groups, and their marketing of logs and value added product**

My rationale for this trip was that I was involved in a newly formed small Victorian cooperative which was marketing not just the logs from private landowners, but the green and dried milled timber from those logs. SMARTimbers (standing for Sustainably Managed Australian Regional Timbers) was also intending to carve a unique position for itself as selling timbers only from certified sustainably managed plantations or native forest. As a fledgling organisation we could not afford to make any management mistakes, waste money or lose credibility among members or customers.
My study through 12 countries looked at the activity of private forestry marketing associations and cooperatives. I looked at how they managed members' funds, how they marketed timber, or were involved in value adding. Some of them were doing innovative things with marketing the harvest trash and thinnings as biomass or woodchip for energy production.

There were a number of visits that gave me particularly valuable information. The first of these was in British Columbia, Canada. I was fortunate to be sponsored to attend an international conference on certification organised by the Certification Watch organisation, based in Quebec. Here I met and heard from foresters and business people from all over North America. We also were shown the large-scale logging and timber handling that is practiced by mainly multinational companies on public land. This gave me a comparison with the later small-scale private harvesting systems in Europe and Scandinavia. In Canada both the large and small-scale logging were in real trouble economically. The outcome from cheaply harvesting massive volumes, plus declining profit margins, had left traditional timber communities and businesses in increasingly vulnerable positions. I learned a lot from visits to Heather Pinnell at the Harrup-Proctor Community Forest, and Cam Brewer at the Eco-Lumber Cooperative, who were allied in marketing FSC certified lumber into this glut of cheap timber.
In Wales I visited Coed Cymru (Welsh Wood) and its manager, David Jenkins. This organisation epitomises the value adding approach to making private native forest management financially viable. Through its innovative approach Coed Cymru was clearly realising its strong basic aim of greatly improving managing the remnant native broadleaf forest, at no cost to farmers.
I occasionally fell over something I wasn't anticipating, that yielded valuable lessons. In Denmark the Bach Nielsen's Christmas tree and foliage farm was an example of concentrating on what you can do well.
Other highlights included a visit to Hugo Wirthensohn, state forester and a director of the Kempten Waldbesitzvereinigung (Forest owners association) in the Bavarian Tyrol. In Norway the sustainable management of private forest protects stands from overlogging. Visits here with Arne Solum, West Agder County forestry director, to farm mills showed how the farm log harvest can be value added in many ways on the farm, thus contributing far more to the local economy.
Private forestry in Finland was the eye opener. One in five Finns owns forest, and/or works in the forestry industry. Small private lots makes up about 65% of the total forest which covers about 68% of the country. Forest products, machinery and technology contribute 34% of export income.
Forestry in Japan suffers from cheap imports. But the imports can't displace the prized traditional timbers that are still handled and marketed in a uniquely Japanese way.
Lessons learned: from Wales that even 'waste' timber can have real value; from Canada that survival requires sound alliances; from Nova Scotia that a timber cooperative can fund itself other than by selling timber; from Norway that farm foresters can profitably supply a local or niche demand; from Finland that private forestry can be a major part of the economy; from Japan that wood can have great cultural significance giving it value well beyond its utility.
We are applying all information within our cooperative and making it freely available to interested parties through all available media, forestry networks, and publicity avenues.

Programme 23/3/2003-16/6/2003

Canada. British Columbia – Certification, large scale forestry and milling
Certification Watch conference. Vancouver 2 days
Certification Conference field trip, Vancouver Island 2 days
Richard Donovan, Chief of forestry, Rainforest Alliance
(www.rainforest-alliance.org)
Harrop-Proctor community forest cooperative, Heather Pinnell, forester
(www.hpcommunityforest.org)
Canadian Eco-Lumber Co-op, Vancouver, Cam Brewer, manager
(www.ecolumber.ca)

USA. Massachusetts – Forest stewardship, state government support systems
University of Massachusetts, David Kitteridge, state extension forester
(www.umass.edu/forwild)
Massachusetts Woodlands Cooperative, Arthur Eve, director (www.masswoodlands.coop)
American Forest Foundation, Elisabeth Yolin, Certification outreach manager
(www.treefarmsystem.org)
Meet landowners involved in forest stewardship management

Canada. Nova Scotia – Managing long rotation forest, alternative co-op incomes
Athol Cooperative, Amherst. Warren Murley, manager (www.atholforestry.com)
Attend forest owners conference, Truro.

Republic of Ireland- Manage old growth forest, market softwood thinnings
Visit Millenium Forests, state and private conifer plantings.
Joe Doyle, forestry inspector, Castlebar, Co.Mayo.
Mark Twomey, forestry inspector, Johnstown, Co.Wexford
Pat O'Mally, manager, Western Forestry Cooperative, Sligo.

Wales – small diameter and short logs, value adding, employment creation
Coed Cymru (Welsh Wood), Tregynon, David Jenkins, manager
(www.coedcymru.org.uk)
John Price, farm forester and portable miller
Visit sawmill using Coed Cymru approach
Attend wood promotion fair, meet manufacturers using Coed Cymru designs
England-
David Marginson, Farm Woodland Scheme, and Stewardship scheme
(applying EU biodiversity tree lots, hedges, beetlebanks and 'set asides').

Germany, Bavaria. – large association involvement in value adding/biomass
Dr Roland Beck, Munich Technical University, Forest Science Dept
Hugo Wirthensohn, state forester, and director of Kempten Waldbesitzvereinigung

Austria – Forestry training and equipment manufacture
Adolf Kummer, Peter Bauernfried, Forestry training centre, Alt-Ossiach
Joseph Konrad, Konrad Forsttechnik, forestry machinery manufacturer
(www.forsttechnik.at)

Hungary- Black Locust provenance trials and value adding
Dr Karoly Redei. Director, Forest Research Institute, Budapest
Dr Judit Sitkey, researcher, FRI Budapest.
Visit Black locust provenance and research trials at Godollo
Visit forestry areas in eastern plains

Denmark – Christmas tree production, and foliage marketing
Thorsten Hansen, project coordinator, Skovdyrkerforeningen (Danish Forestry Extension)
Bodil and Ebbe Bach Nielsen, Maglesoe, Zeeland, Christmas tree farm (www.maglesoe-plantage.dk)

Norway – Farm mill product marketing, sustainable forestry planning and mapping
Arne Solum, Kristiansand, West Agder county forestry director
Bjorgulv Foss, Hessa, Bjelland, forest owner/sawmiller
Arne Hoye, Hoye, Marnardal, forest owner/sawmiller
Director, Agder-Telemark Forest Owners Association (Skogeiervoreiningen)
Visit forestry sites

Sweden – Forest owner association commercial ventures
Per Bengtsson, Mellanskog (a Swedish forest owners association), Uppsala (www.mellanskog.se)

Finland- Getting it all together, and showing the full potential
Kari Korhonen, acting director, Metla (Finnish Forest Research Inst), Joensuu (www.metla.fi)
Tapio Wall, researcher(properties & utilisation of thinning wood), Metla
Henrik Herajarvi, researcher (properties & utilisation of hardwoods), Metla
Matti Saramaki, manager, Association of Forest Owners, North Karelia, Joensuu
Sakari Tikka, forester, “
Visit forest sites and farm sawmill
Visit European Forestry Institute- Joensuu
Visit biomass township heating plant, Parakilla
Visit Finnish Forestry Museum, Lusto
Tapio Lehtiniemi, senior officer (biomass), Ministry of Agriculture and Forestry

Japan- Growing timber for traditional markets, auction systems
Prof. Yoshiya Iwai, Graduate School of Forest Science, Kyoto University.
Takuji Fujihira, forester, Nara Prefecture
Dr Kazuo Watanabe, Associate Director, Nara Forest Research Institute
Visit log auction yards

For further ideas about cooperatives and marketing bodies there are some excellent sites in North America. One I can really recommend that gives access to many others and puts out a weekly newsletter is www.forestrycenter.org. Another is www.timbergreenforestry.com. A third is www.forestprod.org. This last is an organisation that runs a series of annual conferences and lists abstracts from these on issues such as milling small roundwood, and kiln drying.

Findings

Overview

On this study trip I had to solve for our Victorian situation how a cooperative could become rapidly viable in a country where there was no real culture of private forestry marketing and value adding, and where there was limited resource, and undeveloped markets for the products we envisioned. It's a variation on the old chicken and egg conundrum. How do you get a cooperative to survive long enough with limited funding, so it can be there to supply the product that through good marketing it develops the demand for, with the end result of a change of culture to better supply the wood to service the demand. Successful establishment seems unlikely, yet in most countries there were these private forestry marketing associations. How had they come into existence, and what were their common characteristics?

My trip unearthed answers to most of my initial questions. I found I had to look further than at the associations themselves, and wound up looking at the culture, history and politics of each country. There were clear differences between countries in regard to the history of government forest policy, private forest ownership patterns and regulation, government stimulus to formation, and the role of private forest owner marketing associations.

The associations were most well established in Germany, Austria and Scandinavia where they are an intrinsic part of the forestry industry, and play a number of key roles. Here, management and sustainable harvesting of private and public forest is tightly regulated, and highly detailed forest mapping and planning is a normal practice. Government policy either supported private associations directly through subsidies, or by regulation ensured that they were indispensable to private forest owners, and often both. In Finland almost all forest owners were required to be members of their local association by law.

In Canada and the USA the situation was much more complex, with some states and provinces having a history of stimulating forestry stewardship, and several associations that united private forest owners but had little function in marketing. Long established marketing associations were hard to find.

Case study – Denmark

Denmark was originally densely forested, with great stands of beech, ash and oak growing on the good mineral soils, and the poorer Jutland sands that the Norwegians complain were swept there from Norway by glacial scouring. Between about 4000BC (late Stone Age) and 1800 AD clearing had reduced this back to barely 2% of land area. The Forest Reserve Regulation of 1805 introduced a policy of sustainable forestry. Forest cover is now about 12% and increasing. New forest stands have been planted all over the country, initially with Mountain pine and Noway spruce on the heaths. More recently reforestation has concentrated on the original broadleaf species.

Denmark has become the European leader in Christmas tree and foliage production, with a growers' association coordinating the marketing of 12 million trees and 37,000 tonnes of foliage produced annually, mostly for export to Germany, and as far as France and England. This trade produces about one third of Denmark's forest product income. This grower association, Dansk Juletraesskovforening, shares a building in a Copenhagen suburb with its parent body, the Danish Forestry Association (Dansk Skovforening) which is the peak trade association. Its members include larger forest owners with employed staff, and the state forestry administration, and own 80% of Denmark's forests. The head office of Danish Forestry Extension (Skovdyrkerforeningen or DDS) also shares the building. The DDS has 10 local associations which operate independently, though collaboratively. It is controlled by its 7200 members (about a third of all forest owners), who own about 81,000 ha, or 15% of Danish forest, with annual turnover of about 220million Dkroner.

Each branch has a chief forester and 5-7 forest engineers, who service members. Each member is entitled to a visit per year within their fee. Extra visits cost. The activity of DDS is principally advisory (there is no government advisory service). DDS also markets logs to mills, which buy at a roadside price and arrange transport. DDS also will do work on member's properties, and make bulk purchases of plants and other products for discounted on-sale to members.

DDS operates on a sales commission of about 7%, plus an annual member fee of about 50DKr (A$15). The total membership fees are approximately matched by a state subsidy. Some local associations also market chip from thinnings and harvest waste, with a total of about 400,000m3 of chip produced annually over all Denmark (or 20% of total harvested wood volume). This trade is stimulated by a subsidy paid on biomass fuels transferred from taxes on fossil fuel imports.

One major product from Danish private forest is birch flooring. Use of this timber for flooring became practicable when it was found that it becomes far more stable when heated. Danish industry now produces 300-400,000m3 kiln dried birch board per year for flooring and other high value products.

Forestry culture

National attitude to forestry and farm forestry varies widely throughout the world. The 'old' countries visited (Germany, Scandinavia and Japan) have national policies going back 100 years or more that ensure sustainable forestry, often with a 'natural' species mix. Often, as with Denmark particularly, this was to recover from over-clearing. At the same time as this establishment of a sustainable forest policy was being developed, the 'new world' countries were clearing forest for agriculture. Often this process became a 'right' of the landowner. Until now that has been the case in most states of Australia. An example of the differences in attitude toward sustainable management between the old and new worlds are the sizes of coupes, and the permissible logging systems.

In private forestry in northern Europe and Scandinavia, maximum coupe size is between one and two ha. Logging mostly takes place in winter so ground cover is unaffected. Usually logging is highly selective rather than clearfell. In steeper sites in Germany and Austria cable logging is used as a matter of course. Forest owner associations oversee contractors, and then sell to processors from the roadside. Despite this small scale, relatively high cost system, the forestry industry in these countries is in good shape, and is generally operating in the open market. Regeneration of forest is with indigenous species and usually natural seed fall provides adequate seedling density. Thinning is a basic part of management. Foresters have high status and training is well funded. Timber is processed in well dispersed mills of all sizes, serving established local and regional markets.

In Canada the vast forest is a major natural resource. Coupe sizes are usually 40 ha, often with only a token line of trees before the next 40 ha. Clear felling is standard, and most forest is 'old growth', has no management, and is unthinned. Logging is all year round, and mostly by wheeled and tracked machinery (helicopter extraction may be used with remote sites). Disturbance to groundcover can be dramatic, with consequent runoff along logging roads and into catchments. Trees are often cut high, to leave up to two metres of stump. Scattered remnant trees may be left for habitat and seeding. To conform to certification requirements buffer strips are left along main watercourses, but not usually along minor drainage lines or roadways. Most Canadian timber harvest is on public land.

Despite this low cost, large scale logging system with its centralised processing (or possibly because of it), the forestry industry in Canada is in real trouble financially. Unemployment in traditional forestry areas is high – often around 20%- and the international corporations are striving for more and more automation in mills and harvesting. Private forestry must survive in this economic environment.

In Finland also the forest is a major natural resource. But by contrast the timber industry is a major employer. It, along with the rest of the forestry cluster that includes machinery, processed timber products and technology, produces 34% of total export income. This is said to be higher than any other country in the world and certainly in the EU. Finland is a leader in producing machinery for not only large scale harvesting but also for on-farm tractor powered harvesting and milling.

Now the Finns are the leaders in the use of biomass for power generation and heating, with most larger towns with some central chip fuelled plant, and half of all the timber industry's energy needs provided by their own wood fired plants. Finland, with its four million inhabitants, is a major player in the world paper, plywood and furniture industries.

But then one in five Finns is a forest owner, and three quarters of those live in or near their forest.

Case study – Ireland. Ireland's forestry reflects prolonged clearing for agriculture, and a later exploitation by the occupying English of forests for industry (Ireland is still the least forested country in the EU). Reforestation by the newly independent state in 1922 was of conifers, possibly reflecting the need for pit timbers by the English (the same thing happened in Wales). Private plantings of conifers (sitka spruce, lodgepole pine, noway spruce and scots pine) began in western Ireland in the early 1980's. Often the sites were low productivity peat bog or hillside. The thinning of these sites is now overdue with few local processing industries. Yet Ireland imports most of its building timber and is in a building boom.

In western Ireland up to 20 small cooperatives have been formed with EU support, each with about 150 members, and average 6 hectares per member. Co-ops arrange contract harvesting, and market thinnings. However price of small diameter timber has slumped. Meanwhile plantings of conifers and broadleaves continues, stimulated by large EU and Irish subsidies. 15,000 farmers have received planting subsidies. Output from private forest is 60,000m3 annually, going up to 500,000 m3 by 2012.

And in Australia? A history of unsustainably managed state and private forests, near-total clearance of productive agricultural land. Major salinity and erosion problems. Undervalued sawlogs and too-little-too-late with value adding. No incentive to landholders to manage remnant native stands. A general perception that forestry is exploitative rather than part of a managed cycle. Lack of a long term private forestry policy. To change this anti-forest culture will be a long haul.

Marketing group size

The timber marketing association can be big and viable, but not necessarily lift returns for its members. Or it can be small and innovative in value adding, but this path is narrow and most precarious, at least in the first years.

My trip was principally to look at similar sized organisations to the SMARTimbers cooperative in Victoria. We have a relatively small group with a membership which we aim to grow to about 150. Most of these are wood producers, with most of these currently being farmers. Several members own private native forest and this proportion will increase as our activity expands.

Areas of mature forest or plantation held by our current members ranges from several hectares to perhaps 50ha. As such we are similar to the majority of groups in north America and Scandinavia, where average forest size is between 2 and 10 ha. Where we may differ is in the proximity of members' sites due to be harvested or managed in any year.

In Germany, Austria, and the Scandinavian countries association membership percentages are high, or even obligatory and universal, among forest owners. Membership numbers may run from 5000 to 20,000. The North Karelian forest owners Association in Finland had a total membership of about 21,000, served by 60 officers. It is split into local groups of 400 or so, each with a committee of management. Thus it is possible for these associations to operate contractors through members' woodlots or forest very efficiently.

The culture and national policy in these regions maintains and manages forest for long term sustainability, and forest integrity is maintained. This is basically by a carrot and stick approach, with the carrot being subsidies from the EU, local, regional and national government, being backed up by fines and penalties through legislation for bad management. It all works well partly because the marketing and management activity of the association makes it easier, particularly for absentee owners.

The large associations have been in place and growing for many years. Competition and ready comparisons reduce the tendency for them to become fat and lazy, though they show little interest in value adding, or marketing logs more imaginatively or aggressively. Often their funding is bolstered by substantial government contributions, since they may do the job of a state or national forestry service, as in Finland.

Case study – Athol forest cooperative, Canada

An example of a diversified, small to medium sized forestry cooperative is the Athol Cooperative based at Amherst in Cumberland County, Nova Scotia, Canada. I visited Athol because Sustainable Woods Cooperative, the main cooperative I was visiting in Wisconsin, USA, failed and closed just before my visit. I had chosen SWC as it was in its critical first years of expansion and establishment. Its closure was a sobering reminder of the difficulties we ourselves face.

Nova Scotia is on the eastern seaboard of Canada, and so far north that it is all boreal forest and the species mix is very limited. Growth rates are low, and most of the state's area is forested with sitka spruce and douglas fir and privately owned. As in northern Europe and Scandinavia harvesting is done mostly in winter.

The state of Nova Scotia had encouraged forestry cooperatives to start by funding each with a forester's wages and office premises. The Athol cooperative began 25 years ago with 12 landowners and with a government paid forester and leased office space. When this subsidy ceased in 1995 the Athol cooperative persisted, along with three others from the 1995 total of 18. Athol now has 200 members representing 17,400 ha of forest (about 20% of members live outside the state). While the average forest holding is 87 ha, the range is from 25 ha up, with the members with over 200 ha tending to have annual activity. Membership drop-off tends to be among those with under 40 ha.

The cooperative charges a 5% management fee on log sales, and makes the balance of its income from selling a wide range of forestry equipment, and doing consulting and mapping. Its income is approximately CDN$300,000 pa. It has made a profit every year for the past 6 years since government subsidy finished. A critical part of its viability flows from the directors' decision to install a C$40,000 GPS tower and operating system. This allows precise mapping and location specification for member's forest operations, with time also sold to other users. Athol also now owns its own building (previously a run down out-of-town service station and garage) and rents out some excess office space.

Athol is an interesting case of a forest owners' cooperative which sells logs direct to the processor, and makes its supplementary income from selling merchandise and contracting. There is no government subsidy as such, though legislation requires the processing mill to reinvest proportionately in forest management. For example, a local mill bought about 25,000m3 of logs through Athol and paid about A$80,000 for forest services such as thinning. Much of this was managed by Athol.

Group income and services

To be viable a cooperative or association has to be making a profit after all costs, asset depreciation and improvement. Income has to be as insulated as possible from the fluctuations of the raw wood market. This could be by selling into a market that has fewer fluctuations, or by selling other products and services to members, or outside the cooperative. It costs about A$100,000 to maintain a full time professional officer to manage a cooperative's activities, and provide service to members. This includes a vehicle and some sort of office space with some administrative support.
I looked for the ways that the various organisations were trying to achieve this, and specially the ones that were doing it with a value-adding approach.
A breakdown of the enterprise activity and diversification follows. These are roughly in order of the relative frequency of any process.

1) Levy on log sales. (Aggregation of logs by species and grade. Negotiate best price)
2) Annual membership fees
3) Contracting for planting and other management work
4) GPS service and site mapping service
5) Consulting (mainly on silviculture, i.e. forest management plan development)
6) Harvesting contracting and overseeing
7) Sale of biomass from tops and thinnings
8) Sale of firewood
9) Milling (hard to do profitably and rarely pursued)
10) Investment in timber manufacturing (Norwegian example with Skog forsk)
11) Sale of green and dried lumber from contract or own milling
12) Sale of fabricated wooden product (hard to do profitably, usually abandoned)
13) Sale of forestry equipment and consumables
14) Rental of surplus office space
15) Funding for specific tasks, from associated non-profit foundation

As well some organisations received substantial government input. In countries where the association did much of the advisory work normally the role of government, there was generally considerable government funding,
Forestry processing industry in Nova Scotia has to reinvest a set proportion of log purchase price back into forestry industry. This often went to the local association to oversee contractors doing the work on the ground. This included thinning, replanting, and other forest improvement work.
In other countries with government incentives and subsidies for encouraging good forestry practices, the associations would do much of the paperwork involved, and again would often oversee contractors.
Many of the newer cooperatives received government and philanthropic funds during their start up first two or three years. It was a measure of the sophistication and focus of these organisations how well they exploited this source and how they managed the funds gained. Often, in retrospect, the funds were spent on things not connected with creating a healthy cash flow.

Case study- Kempten Waldbesitzvereinigung (WBV) (forest owners association), Bavaria.
The Kempten association is one of 150 in Bavaria and one of 15 that takes a more innovative and entrepreneurial attitude to marketing. It has 1500 members with a total of about 8000 ha. Increasingly owners are absentee, and are not equipped or knowledgeable about forestry management. Members pay 25 Euros a year (about $A45) and 1.40 Euros per cubic metre of log sold. WBV employs a director, three part time office staff, and has seven district representatives who manage local logging etc.
Annually the organisation sells about 50,000m3 of logs, mostly direct to mills with the logs felled and carted to the roadside by contractors or the farmer. The sawmills pay 1Euro/m3 direct to the association.
The WBV sells about 3000 tonne of chipped spruce tops to Kempten council annually. The chipping and transport is done by a syndicate of members who own the chipper. The WBV also supplies about 5000m3 of household firewood through local outlets. The WBV is also supplying about 15,000 tonne of chip for pellet manufacture, and is joining with three other associations to increase supply to a potential 200,000m3.

For individual organisations refer to appendix notes where accessible. In each visit summarised there is a section on income sources, and trading detail.

Value adding activity

Our Victorian cooperative is focussing on taking logs as far along the processing pathway as possible. This means that our members forgo quick income from log sales. Instead they can invest in further processing through milling, air and kiln drying, and possibly shaping or production of veneers and thin sheet. This involves time, money and some risk, but increases the potential for far greater income per cubic meter of log. It is a more practicable option when the group is dealing with a small volume of timber that can be marketed into a higher price bracket because of some market distinction.

In most of the areas I visited private forestry groups had the situation of trying to sell a softwood product into a market awash with the material. Price received for the value added process or an FSC certified log or lumber usually yielded no premium. I came across various tactics for achieving financial survival in these conditions. Most groups simply took a percentage for handling a large volume of logs. Some of these marketed more aggressively than others. Some insisted on controlling the felling and delivery to the roadside. Others simply sold the logs standing and oversaw the harvest. Groups that were philosophically committed to a forestry certification approach had to either sell to equally committed buyers for whatever premium possible, or combine with other cooperatives, as in the case of the client cooperatives of the Eco Lumber co-op in Vancouver. This aggregation of product also allowed for more stable supply to the market, better product quality control, and better communication with the buying sector. In the main these cooperatives were also dealing with a smaller harvest volume usually harvested in a more environmentally sensitive way, and therefore more expensive. This forced the groups to look at value adding to get up to a break-even point financially. Their survival depended on how they funded the processing and developed the market, or distinguished and thus raised the price of the product.

Case study 1: The Harrop-Procter Community Forestry Cooperative. Value adding is a complex process. The case of the Harrup-Proctor Cooperative in SE British Columbia (8-12 hours by truck to the coastal population centres) shows some of the difficulties. Here the newly ceded community forest urgently needed thinning. The process had to be done by expensive narrow slot cable logging to avoid sending silt into the towns' water supply. To date harvest cost of the smaller diameter logs of common species was more than their sale value. The cooperative explored various options. First was to mill locally and sell as green sawn FSC certified into the local area, where there was no shortage of cheap lumber. The milling system available in the community was relatively slow and expensive. The freight involved in trucking to more efficient mills caused problems with cash flow.

A second option was to mill and dry and turn into final product such as cladding, flooring, or made up items like potato boxes, dog kennels and bird boxes. The outcome of this was mixed, with the cladding and flooring showing some promise, specially when the outlet through Eco-Lumber Cooperative in Vancouver comes fully on stream. This cooperative may then be able to realise a higher price for green sawn and dried lumber, through sale to environmentally committed builders at a premium enough to more than offset the freight and handling charges, and marketing levy.

Case study 2. Coed Cymru in Wales began with the aim of reviving deteriorating old broadleaf forests. The costs of the essential thinning appeared impossible to recover. However CC took a lateral jump and designed the necessary systems for cost effective milling and drying of lumber from short, small diameter hardwood logs. Designs for high value manufactured products were developed, plus the jig-based assembly systems that allowed unskilled or disabled people to make them to a commercial finish. A critical part of Coed Cymru's success is how it values and retains support from local government, and environmental and farmer groups. Any accounting of Coed Cymru's activity includes the spin-off social benefits of training and useful employment of ex-prisoners and handicapped people. The designs and processes are all available free.

Many farmer members now mill their logs using portable mills. The number of these mills in the area has increased from 2 to 82 over the 15 years of CC's activity. Similarly new industry with a turnover of about 12 million pounds is utilising this Welsh hardwood. CC has now managed 17,000 acres for 5000 owners, plus achieved real outcomes at these other levels, all through this value-adding approach.

Value adding doesn't stop with the quality lumber. Harvest wastes are marketed by many groups as firewood, chip for fuel, or chip and pulp for processed products. These include paper, wafer board, or chip board.

Biomass use and marketing

In Australia timber harvesting or thinning creates large volumes of waste. Currently this is left on site as trash, or heaped into windrows and burnt (an ash seedbed, sizeable clearing in forest canopy, and smoke are important for regeneration of many native species). In pine plantations this may involve the first thinning left to rot on the ground. As carbon becomes more valued and electricity from fossil fuels is increasingly taxed, it will become more cost effective to use this biomass. This is already normal practice in some countries of Scandinavia and northern Europe.

In Bavaria the Kempten forest owners association is selling 3000 tonne of chip from harvest waste to the Kempten city to supplement power generation from burning municipal waste (sawmills supply another 7000 tonne). Tax incentives from the Bavarian government made this a viable operation. The aim of the Kempten region association, and subsequently the larger regional group of forest owner associations is to become CO2 neutral.

In Finland each regional government area has two or three officers dedicated to increasing the use and efficiency of biomass. In the timber industry about half the electricity and heat needed was generated by the plant from waste and biomass. Many towns had central water heating or electricity generating fired principally from chip. The Finns have a new chip-fired power plant at Pieterarsaa with an output equal to the first of their five nuclear plants.

In Denmark about 400,000 m3 of woodchip is produced annually, and that is about 20% of harvested wood volume. Most of this goes to heating and power generation, with the price for chip at the plant equated to its energy content, about 30-35 Danish Kroner per gigajoule. The price of oil is about 100DK per gigajoule including taxes (without taxes oil price is about 35DK /gigajoule also).

In Sweden woody harvest waste makes up 19% of the primary energy supply.

Case study: Of all the European countries Finland has shown the most commitment to making use of biomass. Here the government subsidises the transport of first thinnings with a seven Euro/m3 payment. This is on top of a 1.7 Euro /m3 subsidy for thinning costs, and an equal subsidy for chipping costs. Another figure given for thinning subsidy was 100 E/ha to thin , plus 70E/ha if thinnings are used for firewood or chip. The cost of thinning is about 13E/m3.

In each of the 13 forestry regions in Finland there are two or three biomass advisors whose sole job is to stimulate use of biomass by industry and communities. 28% of energy overall in Finland is from biomass (this figure includes peat. The contribution of wood is about 22%). Industry produces much of this. The timber processing industry consumes about 33% of total Finnish electricity, and produces roughly half of that within their own plants by converting chip and other byproduct into electricity.

For communities it is cheaper to produce heat and electricity from chip than from diesel fuel because of taxes on fuel oil and grants toward capital costs of biomass fuelled generating plants. This high fossil fuel taxation began after the oil crisis of 1973-74.

Usually a community plant is supplied with chip, and possibly controlled under tender, by a local timber company. The community or company gets approximately 25% of the capital cost from government grants. If they are developing some new technology this can be 30%. The community owns the reticulation system. Generating plants can be quite small, down to 700KW. If the plant produces extra electricity for sale into the national grid it gets incentive payments.

The biggest chip fired electricity plant in Finland (and the world) is at Piertarsaa in the centre of the country. Coming onstream in 2001 it has about the capacity of the first of Finland's five nuclear power plants, and produces electricity, heat and steam for the community and neighbouring industry.

Ash disposal is a problem and ash was at first spread in the forest. Other methods of disposal are increasingly used including road foundation.

The Finnish government is continually reviewing and updating the policy on biomass use since the first policy of 1976. The latest review was in late 2002. Organisations such as Finbio- the association of bio energy production- have informative websites, and Finland hosts regular conferences on the use of biomass.

Non-wood product

A cooperative or group can manage the sale of many products from its members' forest estate other than timber. Some examples of these sorts of products include

1. Honey – the Hungarians are selecting black locust for flowering spread and honey yield
2. Carbon – carbon credit trading requires sizeable areas under one control
3. Recreational access – camping, walking, skiing
4. Berry and fungi harvest
5. Under storey herbs and lichens for alternative health products and food flavouring
6. Water run off reduction and flood mitigation, water quality
7. Wildlife habitat – Massachusetts (USA) Chapter 61 and Forest Stewardship grants.
8. Solitude, retreats, workshops
9. Landscape enhancement
10. Hunting leases

One part of the Harrop-Proctor community forest's activity in British Columbia was to assess the feasibility of harvesting and marketing the under-story plants that occurred in the forest surrounding the towns. The outcome was that returns were marginal, the market was in its early stages, and the labour requirement was high. Nevertheless the product was there and potentially could provide a secondary income to community members. The timber harvesting system in this cooperative used cable logging to do minimal damage to the under-storey and ground cover. The sustainable harvest of native plants goes hand in hand with this philosophy, and could be revisited. The indigenous people's knowledge of traditional uses of forest plants was incorporated in the initial enterprise.

In Germany foresters and timber marketing associations want elk and deer numbers kept to a level that allows for adequate forest regeneration (in Austria up to 45% of new seedlings show browsing damage). Many farmers prefer more elk and deer, so hunters who pay for hunting access can be assured of an animal. In Norway the hunting of elk is limited in West Agder to one per 10ha per year. Currently this right is rarely on sold to non-landowning hunters. The liking of Norwegians for elk meat does not keep numbers satisfactorily in check. In both cases associations play a role in monitoring and advice.

The importance of forest for wildlife, water quality and landscape is long recognised by European countries. The EU gives grants for planting and maintaining forest, with an increasing emphasis on broadleaf forest in the more temperate countries like France, England and Ireland. An increasing focus is on flood mitigation through suitable forest replanting and species selection.

Case study - Austria

Austria has the Imperial forest Law of 1852 specifically preserving the protective nature and ecological benefit of the forest. 46% of Austria is forested, much of this being alpine slopes. About 65% is privately owned by about 200,000 farmers. About 13% of forest is not logged, being too steep and inaccessible, and is maintained as habitat and to reduce torrent and avalanche damage. The Ministry of Agriculture and Forestry for over 100 years has maintained a Torrent and Avalanche control service, with a team of experts who monitor danger areas.

While about 124,000 workers are employed in the timber industry, greater numbers are employed in tourism, including winter alpine sports. Winter sports in Austria have reached industrial proportions with 22,000 km of prepared ski runs cutting through alpine forest. 4000 lifts and cableways service the skiing public, running up from a multitude of small and large resorts. Skiing away from the prepared runs became fashionable with resultant damage to environment and disturbance to wildlife. To demonstrate the Austrian commitment to forest preservation, the Austrian Forest Law of 1988 prohibited this practice.

The Austrian forests are open to all by law for all normal recreation, though excessive picking of mushrooms and berries is forbidden. To maintain the quality, visual amenity and habitat, timber harvesting is strictly controlled. Clearcutting over 0.5 ha requires official permission, and extensive clear felling is totally prohibited. Grubbing of roots is only permitted in exceptional circumstances such as for roads. Forest enterprises over 500 ha must be managed by a certified forester, and over 1800 ha by a certified forestry graduate. An inventory of forest is made every ten years, so exact figures of increment and total volume allow equally exact harvesting plans.

The visible impact of the acid rain era of the 1970's has been met by appropriate measures by government, and has also made the population aware of the critical value of healthy forest to the Austrian way of life. Foresters and graduate foresters have a high status, with courses in training institutes at three levels in constant demand. Farmers and Forestry association members can attend short courses at two dedicated campuses, Two forestry training schools run five year courses for foresters, and the Agricultural university of Vienna trains graduates in forestry over 9 terms.

Certification

Australia is developing the Australian Forestry Standard (AFS). This is based on the Forest Stewardship Council criteria of sustainable management (FSC), and will be compatible with and recognised by both it and the Pan European Forest Certification (PEFC). Our cooperative, along with several groups in NSW and Victoria, is involved in a pilot program to develop AFS group certification. This is particularly important because it allows small landowners, and those who will be harvesting only occasionally, an affordable way to have their forest or woodlot assessed and their timber certified.

The FSC and PEFC are regarded as the more exacting and stringent of the various systems. Many importing countries require timber to be certified by one or other of these standards. The increasing environmental awareness of the consumer now means that increasingly the large retail chains are demanding that product they buy is from forest harvesting certified as environmentally sustainable. However in many cases they are selling timber or product certified by some far less stringent system, often industry developed and less independently audited. Both Canada and the USA have these less stringent systems. It will mean an increasingly meaningless outcome where when all forest product is 'certified', no premium is paid for product from genuinely well managed forest, and those producers who really deserve recognition will have to incur yet more cost to distinguish their product.

The ideal system ensures a sustainably managed forest, a system that yields a premium to the forest owner, a relatively cheap and simple assessment process, and strict random independent auditing. The current systems are both expensive and overly prescriptive for small forest owners. Either way an effective forest owner group unavoidably has certification as one of its primary tasks, allowing it to increase the differentiation of members' products in the marketplace to at least gain a sale.
In Finland the certification system has been developed to be compatible with the PEFC, but designed to cater for the small owners of the majority of Finland's forest.
Currently the main timber producing countries are aligning themselves as follows-
Canada has developed its own system, the National forest Management Standard under the Canadian Standards association (CSA) in 1996. In 2001 this included an optional chain of custody and labeling program. They also have FSC and ISO 14001 certified forests. At the same time forestry practices by many companies in Canada including on some sites certified under CSA have come in for intense criticism.
The USA has similarly developed its own system, the Sustainable Forest Initiative (SFI). This is a creation of The American Forest and Paper Association for its members, though now able to be used by any interested party under license. It initially had considerable scope for self regulation and hence abuse. It now has strengthened its credibility with a third party certification process. Nevertheless criticism remains among influential environmental groups such as the Sierra Club, and Greenpeace. Large American timber and paper retailers generally are opting to buy product from suppliers who can vouch that they are certified under one of the four main systems in place (FSC, CSA, SFI and PEFC). At the same time premiums for certified lumber are not there for the log producer. There is a fifth system, developed by the American Forest Foundation, called the American Tree Farm System (ATFS), which has 67,000 certified forest owners. The ATFS is not yet an industry accepted system.
In Europe and Scandinavia, countries have generally opted for the PEFC. Ireland and the UK generally opt for FSC.

- Finland – developed between 1996-99 their own PEFC-compatible system, with 37 criteria. 95% of Finland's forest is certified, mostly under regional group certification.
- Sweden- all the 6 associations are committed to PEFC, with some making certification free to qualifying members, though the members pay for a management plan (about A$300 + $4.50/ha of forest)
- Norway. As with Sweden the associations play a major role in administering certification and developing comprehensive management plans for each landowner's forest.

One reservation about the FSC system is its cost. The Harrup-Proctor Community Forest in British Columbia, which was committed to sustainable harvesting and environmentally responsible management, had paid up to A$30,000 for the main assessment, not including the A$3000 for pre-assessment, plus staff time, and was needing to find up to A$8000 for the annual assessment. All for doing what they would have done anyway and little sale premium for logs or lumber.
The same problem of cost has been identified in England, where small growers can't afford certification, and can't compete with certified imported lumber. So the drive for certification can work against local, small, environmentally responsible growers who may harvest far more sustainably.

National forest policies, and incentives

Arguably Australia is being cleared of forest and scrub far faster than plantations are being established. Much of this clearing is now in areas of marginal rainfall and productivity. Both private and public forest have been unsustainably logged and over-cleared. Sustainable management and harvest of private native forest faces increasing impediments, partly due to past malpractice. The focus is currently on planting industrial scale plantations of hard and softwoods, usually in higher rainfall areas. Until recently this has been done at the expense of native forest or scrub on that site. There is little financial incentive to a private forest or remnant vegetation owner to manage for wildlife habitat, to retain biodiversity, or for sustainable harvest. There is no national long-term policy to stimulate integrated farm forestry. Clearance of large areas of forested land has resulted in spreading salinity and erosion. It adds up to a confused situation, that urgently needs a clear, long-term guiding policy.

Any national policy must be long sighted, effective and well funded. It must balance commercial interest and public benefit. And it must recognise the capacity and willingness of landowners to manage their land well in the context of a long term, fair and sensible policy. Most of the countries I visited had such policies. Landowners by law had to maintain forest, and proper management and species mix was regulated. Minimum age and diameter at harvest, size of coupes, time by which plant back must have happened, are all regulated. Effectively the forest is maintained in perpetuity by law. There is literally no 'old growth' forest in middle Europe. Every area of private and public forest is mapped, and at some stage of the process between planting and harvest. The increasingly absentee land owners (up to 30% in the Kempten association in Bavaria, 20% of Athol's members in Nova Scotia), and fragmentation of forest ownership, means that the function of the associations is increasingly important for sound management.
In Germany the approach to private forest management can be traced back to laws and regulations of the late 1700's. All forest is managed. In Norway, not an EU member, similar strictures apply. At the same time local and national government rewards good management with subsidies and incentive payments. Every area of forest land is mapped, with regular reviews. Maps show landform, species, productivity and age class. Cost share or incentives assist road maintenance, thinning and harvesting. Most countries visited have policies that are maintaining or increasing forest cover, and generally this is for both producing commercial timber, as well as for better flood mitigation and habitat. To be effective this requires the maintenance of accurate comprehensive information. This process is stimulated by the incentive payments, the unviable size of most small farms for grazing and cropping, and the overproduction in the EU of most primary products other than timber
Most countries were conscious of the need to reduce greenhouse gas output. Most countries visited were beginning to follow Finland's lead of replacing fossil fuels with biomass/woodchip for electricity generation and heating.
In the countries visited good private forest management is occurring due to a combination of the following factors

- Government and/or EU incentives to offset long-rotation management costs (EU pays on about 25Euro/ha for forestry management subsidies averaged over all EU forested land)
- Government taxes judiciously applied, including on fossil fuel produced energy
- Short and long term legislation affecting forest management
- Positive demand for wood products including biomass, and firewood
- Preparedness of government to invest in research and development
- Presence of associations to manage, market, and assist with paperwork
- Government and community awareness of climatic changes
- Priority given to clean catchments, and wildlife habitat
- Preparedness of government to train and support farm foresters and forestry workers
- Support by government of extension services to forestry
- Confidence of private foresters in long term government commitment to their needs

Reforestation is possible and profitable. Hungary lost 84% of its higher rainfall forest estate through the Treaty of Versailles, at the end of the First World War. With a nation and industry starved of resource they had to quickly develop more forest by planting lower rainfall farm land with suitable species. One, the fast growing north American species Black locust (Robinia pseudoacacia), has become about 18% of Hungary's timber resource. Black locust now covers about 300,000 ha, with plans to plant another 300,000 ha over the next 50 years. The timber is used for firewood, posts, poles, honey production, flooring, general lumber, furniture, and laminated load bearing industrial trusses.

Conclusion

The general trend in countries visited is to encourage private forestry, for habitat and timber production. In general, incentives are in place to reduce early costs in management, and to replace unproductive land use with forestry. These incentives are recovered many times over.

Clearly private forestry can be a very productive sector, providing a range of desirable outcomes. The prime example is Finland, where the private forestry sector is the keystone in the timber industry, which is also one of Finland's largest employers. At the same time Finnish forestry has the handicaps of long rotations, few quality timber species, and a short to very short growing season. Individual owner's forest areas are small, but all these 'disadvantages' are offset by the activity of well supported grower associations, a vigorous industry and intelligent long range national policy.

Use of forestry biomass is one real alternative to burning fossil fuels and the consequent increase in greenhouse gases. Governments are increasingly putting incentives in place to effectively swing a far larger share of private and public heat and power generation toward using biomass.

Local and regional economies are enhanced by the industries managing, harvesting and processing timber. The potentials for value adding are great, and many will retain the extra value in the local economy. As in the example of the Kempten region in Bavaria, forestry allows the region to become CO2 neutral, self sufficient in lumber, provide local employment opportunity, and attract population and tourist income. It maintains wildlife habitat, reduces flooding, and enhances the scenic attributes of the area.

Many regions of Australia have the potential to be in this situation, but either do not realise it or are actually impeded from developing this way because of local or state obstacles. It is imperative that obstacles to managing mixed species native forest are examined (management of mixed native forest is the normal practice in most countries), and that necessary changes are long sighted and intelligent.

Similarly it is imperative that incentives and support for integrated farm forestry be established as a long term action.

We need to call for this to begin now as an integrated policy across the federal government, and all state and local governments.

The outcome of effective government stimulus to private forestry can be dramatic -

In the early 1900's Finland was a poor country, with only about 25% forest cover and no real natural resources. It had powerful neighbours in Sweden and Russia, from which it was only just independent. Agriculture was largely at a subsistence level and principal exports were whole logs and green sawn timber. Due to longsighted national legislation from 1907 encouraging private forestry, Finland is now the most forested country in the EU, with the largest part of its export income derived from forestry and associated sectors, of any country in the world. This is despite long winters with freezing conditions, initially undeveloped transport infrastructure, short growing periods, small diameter logs of only three species, and crippling involvement in the Second World War. Technical research in Finland is developing many wood based products and designs. They are leaders in developing machinery for large and small scale timber harvesting and processing. Despite our great natural advantages, we lack the long range vision and conviction of that early Finnish government.

There is still clear unwillingness of state and federal governments here to commit adequate sums of money in adequate time frames. There are proven models which show how landowners can be given the stimulus to establish and properly manage commercial plantings of a wide range of suitable species for far less cost per hectare than in Europe or Scandinavia. These include the West RFA sawlog project in western Victoria ($500,000 sees landowners plant about 800 ha over two years), the Victorian Plantations for Greenhouse program (a similar outcome for similar money), and the various activities by CALM in WA, and PISA in South Australia. Each of these gives some brief encouragement to private and corporate investors to put money into further plantings.

The European countries show that there is an important role for government in both directly stimulating planting, and also by the judicious use of tax incentives, to make longer rotation private forestry products more profitable, to the individual, industry and nation. We can look at many countries including Brazil, Spain and Israel, which have beaten us to the mark with establishment and management of our own native species, and to whom we are now going to learn how it is done.

A critical part of developing our own non-industrial private forestry industry is the grower association. They help the grower manage and market for greater profitability. They aggregate from many suppliers to fill the order of buyers. They maintain quality, train members, and develop product niches. They manage certification and chain of custody tracking. SMARTimbers appears to be on the right track. The challenge is to find other sources of funding while we develop our markets and line of supply.

Recommendations - general

Private forestry in Australia needs certainty in both government policy and markets. It needs removal of impediments, as detailed below. We have to change the perception among farmers and investors (including government) that farm forestry is either unproductive, commercially risky, or too long term to consider. This is shown to be patently untrue by many countries with far longer rotations and smaller species range than we have. We can learn from them how to stimulate a new valuable sector in the timber industry.

We could look at where we want to be in 50 or 100 years and then work backwards from there. I suggest that we want a situation where environmental, social and economic needs are fully met. It would include the following broad brush actions

1. We need to maintain rural communities by improving employment, and by diversifying agricultural production, which includes integrated forestry. More value-adding industries need to be sited in the rural areas as the timber output comes on stream. Continued export of whole logs would indicate problems in the system.
2. For controlling salinity, erosion, and surface water runoff, for spread of noxious weeds, and even mitigation of wildfire, well managed, diverse and well sited timber belts should be encouraged. These can be a mix of commercial, and under-storey or indigenous non-commercial species.
3. The funding of establishment, management, road maintenance, and other long term costs can be defrayed or borne by a mix of government, private and public investor, and landholder money. Local government and Catchment Management Authorities must be involved.
4. Training must be supported; forestry extension officers, farmers, of local government, of industry.
5. Support to the industry requires a committed and well supported extension service, that provides a clear career path, and that doesn't suffer from constant demoralising tinkering by government
6. Cooperatives and associations that help farmers and investors establish, manage, harvest and market timber should be encouraged and supported.
7. Long range incentives should be implemented that will encourage use of biomass, that will give confidence in harvest and sale of firewood, that will reward truly sustainable management, and that will allow investors and landholders to get adequate returns on their investment. These may be funded by taxes on fossil fuels, tariffs on imported timber, and increased royalties on public forest timber to reflect real market value.
8. A real change in culture and mindset of both landowners and urban dwellers should be begun, to make clear the positive benefits of a healthy and growing private forestry sector producing our best quality native timbers, in conjunction with landcare and environmental enhancement outcomes.
9. A change also needs to take place in the government and landholder attitude toward scrub and non-commercial forest. Landholders with remnant native vegetation (including scrub and grassland) should be given real incentives to maintain them and develop green corridors to link them. Tax incentives, rate rebates, biodiversity credits, or whatever else works, should be put in place. Too much marginal land has been bulldozed for want of a commercially positive alternative.

We must start now. It must be bipartisan, coming from the top of both state and federal governments, and of highest priority. Stakeholders including the green movement, and all other genuine stakeholders, should be brought along and included in the development of the long-term framework. Work needs to be done to renew the image of the forester, and the person who converts a tree into durable timber products. Misinformation about the timber industry should be corrected, and sensible balanced credible information intelligently packaged and disseminated to give concerned people better material on which to build views and attitudes.

The various requirements necessary for increasing private forestry can all be expressed in four words.
Certainty – by private foresters, associations and industry that the situation would continue without radical change, and that the product would have a reliable market
Accessibility – of any financial stimulus or incentive, and of the management and marketing information necessary for producing and selling product.
Simplicity – of the system, so forest owners can comply and manage, without counter-productive red tape
Acceptance – of the importance of sustainable forestry management by farmers and the wider community

Recommendations – successful marketing structure

The common features of successful marketing groups are that they are well run by a specialist manager, are focussed on their specific tasks, and have adequate sources of harvest product to supply their customers, selling at an adequate profit margin.

The case of Sustainable Woods Cooperative in Wisconsin is worth looking at more closely to illustrate why a cooperative can fail when everything looks favourable. This group began with committed support from regional private forestry networks, in an area where there was a solid potential market for the sort of processed timber product they intended to produce. They had sizeable financial start up assistance from various government and philanthropic bodies. They had the log resource. They had access to private foresters with experience in value adding. They clearly had some people with experience in website design and communications. This press release outlines SWC potential.

Special Forestry Presentation: Sustainable Woods

On Tuesday, October 22nd 2002, at the University of Florida, Warren Gaskill, President of the Sustainable Woods Cooperative (SWC), will make a presentation and discuss how landowners and consumers (including contractors, builders and architects) can practice and/or support good forest management.

The Sustainable Woods Cooperative (www.sustainablewoods.com) is the first business of its kind in the nation to combine certified sustainable forest management by its members and certified chain of custody sales of wood products from members' forests through a cooperative ownership structure.

Currently, SWC consists of some 150 private landowners in 11 southwestern Wisconsin counties who have joined forced to build a sawmill and hardwood manufacturing facility to market certified wood products from their woods.

SWC is a cooperative corporation organized under the laws of the State of Wisconsin pursuant to Chapter 185 of the Wisconsin Statutes. Its articles of incorporation and by-laws filed with the State of Wisconsin govern the operation of the cooperative. The cooperative is run by nine board of directors, elected by members of the cooperative. The board of directors then elects the cooperative's officers.

There are several benefits of operating as a cooperative: the benefits and profits go to members, there is local control of business, there are member investment opportunities, and there are educational opportunities to members.

This presentation is sponsored by The Forest Management Trust (www.foresttrust.org) with support from the Community Forestry Resource Center (www.forestrycenter.org).

taken from Forestry Center press release

Reasons put forward by involved foresters for the failure of this cooperative in early 2003 include loss of focus, dependence on administration by committee, inadequate forestry product production and marketing skills among directors. Too much capital was tied up in equipment and logs, and conversion to income was slow. Critically important, there was heavy reliance on advice from 'experts' from industry and academia, excessive money spent on services of consultants, over reliance on the supply of government and philanthropic funding.

The problems of existing private forestry cooperatives in Australia illustrate some other potential pitfalls for groups that start up to market product. Generally there is not enough product, or the cost of harvest and freight are too close to, or even higher than, the mill door price. Often the product is not able to be differentiated, or branded, in the market (it is difficult to brandname pine thinnings or bluegum pulp logs). The cooperative may not have the capitalisation to part or fully process the product to get the necessary level of value adding that might make the process viable.

Another critical factor is that there may actually be no harvest resource, and that the formation of a cooperative is premature, with some other structure such as a growers' network being more appropriate. And finally, and possibly most important, is the lack of funding for a salaried and appropriately skilled person to manage the day to day aspects of the cooperative operation. Too many organisations begin with a group of enthused private forest owners, and the energy of even the most committed is consumed by the demands of the job.

Even with everything in place the cooperative must focus on generating income from day one and delivering a reliable product at a competitive price. Ideally the product is different to its competitors in the marketplace, allowing for a pricing structure that yields good net returns. This may be through local sales or exploiting some local advantage in available species or processing (one coastal group in British Columbia got a contract to produce several thousand ‘Harry Potter’ style *Nimbus 2000* brooms using red alder regrowth, normally regarded by foresters as a weed).
With one of SMARTimbers main species, sugar gum, we have a timber that has very high strength and electrical resistance. It is suited to small cross section electric fencing, power pole cross arms, and similar uses. This may be a high value product from small diameter old growth plantation trees that we have to develop, once satisfactory sales of main line products allow us some breathing space.

Of the timber marketing groups visited, most only sold logs in volume, and sometimes generated extra income from sales of chip, or contract services. Only the ones with smaller log volume were by economic necessity exploring value adding to the product. The problem generally was finding ways to do this without committing to large capital outlays in mills, kiln and moulding machinery, let alone the housing and timber transport equipment. The solutions to this seemed to be twofold.
One is to start small and build up as income flow allows, using whatever grants or low interest loans may be available. This is the approach of Bjorgulv Foss in southern Norway, who was milling the 400m3 annual yield from his 160 ha pine and spruce forest into slabs and flooring, using a tractor drawn forwarder, a Woodmiser bandsaw and a moulder. The natural edge 35mm slabs had a strong market as vertical cladding of the traditional weekend cabins. A neighbouring sawmiller-farmer, Arne Hoye, has developed a market for durable pine heartwood horizontal cladding on heritage houses. This product has all the non-durable sapwood removed and then is moulded into heritage profiles. Hoye also sells bagged pine sawdust for horse bedding, and has developed a robotic sticking-out machine with a government loan and grant.
A second variation is to take the product as far up the value adding line as practical, using alliances with appropriate small to medium operators. The people you are looking for in this case are perfectionists who can be relied on to produce a good quality product and who will benefit from a stable ongoing relationship with your cooperative. These people are not so hard to find if you are within freight distance of an existing timber industry.
This is the current approach SMARTimbers is taking, with alliances with woodcutters, log transporters, mills, a kiln operator, a veneer maker, and some furniture makers. We still have to develop our own facility for airdrying green sawn timber, and a dispatch and grading store for kiln dry timber. The management of kiln drying is a critical point in our value adding process and another point where we may have to own our own facility to achieve the necessary quality control and quick turnaround for orders. Many of our potential products require extra processing, ranging from bandsawing end sections, through skinning off sapwood from poles, to moulding decking profiles. Where possible this is to be contracted out, maybe to a member’s business.

Regardless, the cooperative has to have a system that binds its members together more or less permanently in mutual interest. It has to communicate its developments well, and it has to be all going in the one direction. The necessary business plan needs to be a simple though comprehensive document that gives a realistic development path. Ours was developed with the help of the Cooperatives Federation of Victoria. It didn’t cost much (about $2500 and a lot of time), and it is a useful reference, and essential for accessing grants. During its development we thrashed out many of the issues we needed to reach consensus on. No actual blood was shed, though tempers sometimes shortened.
Reliance on grants is a potential pitfall for a cooperative, and partly because it is usually easier to get grants to do feasibility studies (drawn up by ‘experts’) rather than to put into the capital items of similar cost that would help generate income. Again with SMARTimbers we used a grant early on to get a feasibility study done on the economics of kiln drying. We supplied most of the data, we primed the consultants, they knew what we wanted the study to say. The whole process took at least six months and a lot of travel. At the end of the period, we had a thin booklet costing about the price of a small kiln ($29,000), that said we should get a kiln.
At the same time grants will be necessary to keep the structure up till sales income equals the outgoings. There are lots of grants from many sources that can be accessed, and used to fit development into the boundaries detailed in the business plan. Most grants are a slow process, with up to a year between application and some money in the bank. In our case we got good start-up funding from the regional plantation committee, and from the state rural industry department. We did not employ our part time field officer until a year from our launch. Most of our funds sat there till that time as we worked on our operating models and learned the ropes of the business.

Case Study – Massachusetts Woodlands Cooperative. Chairman - Arthur Eve.
Massachusetts has many landowners with smaller wooded holdings who use them as retreats and part of a preferred lifestyle. The state runs several programs to encourage forest management and maintenance of wildlife habitat. One of these is called Chapter 61. It is an incentive program for forestry stewardship. The landowner is given grants to assist with thinning, retention or enhancement of habitat features, construction of access tracks etc. It also qualifies the landowner to receive a rate reduction. So a 378 acre members farm is concessionally taxed at 5%. Where wood is cut and sold the landowner is required to pay a nominal stumpage to the state.
The other is the Massachusetts Stewardship Trust. It provides money for management planning, has cost share arrangements for creating sizeable forest openings, for bluebird boxes, retention of snag trees etc. There are moves to merge these two plans. Currently private consulting foresters do the management plans for both schemes. There are also county foresters who advise on silviculture and compliance, but don't engage in commercial aspects.
Background. The Cooperative's evolution began in spring 1999 with the support of the Department of Environmental Management at the University of Massachusetts in Amherst. A small group attended a conference on cooperatives. A steering committee was formed that mailed to 1000 landowners who were registered under Chapter 61, or Forest Stewardship. Got a good response. Most members were more interested in Stewardship and wildlife habitat than commercial harvesting. The cooperative was incorporated in summer 2001.
Structure. Began with 22 core members. The cooperative has two separate structures. One is a limited liability company to run the cooperative. The other, the Massachusetts Woodlands Institute, is a non profit organisation to receive funds and dispense them for various projects (Have just done a series of forest management case studies funded by a foundation grant). Board numbers seven and meetings are held every 4-5 weeks. All members are invited. Usually get 9-14 members attending. Have subgroups working on realising commercial aims. One is looking at economics of producing cherry flooring.
Funding. The cooperative has 25 members. A member pays $250 for a share, and also pays $80/year to cover fixed costs. The cooperative received start up funding from foundations and the Federal government. It is just finishing its business plan. Recruitment is by invitation and willingness to abide by FSC standards. The member doing the organising and paperwork etc. is paid.
Trading. The cooperative will concentrate on flooring and timber framing. They have developed links with the Heartwood School which runs building courses. The approach to developing commercial activity is incremental, and the cooperative is avoiding any entry into debt. Through members it has access to some portable Woodmizer mills. One member with 500ha of pine has a small kiln. The cooperative is also looking at the range of non-wood outputs from members' forest. One member runs writer's retreats on his 100 acres. Another is investigating under-story crops.
Species available in member's forests include premium broadleaf timbers like cherry, oak, birch and maple. As well there are lodgepole pine, white pine and hemlock. In conventional harvesting, forests are 'highgraded' with everything over 12" diameter taken out ('top down' harvesting). The cooperative is looking at the systems available to make adequate returns from 'bottom up' thinning. Currently the cooperative hasn't the capacity to dispose of all wood from member's forest operations. They require only first right of refusal. As well they are able to manage log sale outside the co-op.
Profit division is anticipated as 5% to the Woodlands Institute, 20% retained, 55% returned to members pro-rata on top of stumpage.
Activity. They have made intensive use of the surrounding support structures. The University help with expert advice and extension activity, plus publications and student involvement. The Smartwood visiting FSC certifiers have helped them develop a data base for all members properties. This includes a GIS data base with maps of forests giving overlays of soils species etc., plus member stewardship management plans under chapter 61. Arthur Eve and several others write reports, proposals and funding submissions. The cooperative members have wide networks with the corresponding 'rich' connexions to be used. One member knows the head of the Tides foundation, another has a connexion with a Comissioner of Agriculture. They make use of the communications revolution with all but one member with internet and email access.
Lessons learnt. It pays handsomely to have someone focus on gaining new funding ("It is most important to be at the leading edge and seek funding for things that no one else is doing, ie to be the first one in the area". AE.). List and use connections thoroughly. Structure your organisation to allow access to all funding sources. Make best use of communications efficiencies.

British Columbia. Canada. 95 million ha. 62% is forest (53.7 million ha). Working forest – public and private- is 23 million ha. Parks and reserves 11.2 million ha. Annual timber harvest 200,000ha. This is regarded as sustainable and is mostly old growth (not previously logged). Over the last year log exports have quadrupled, with consequent reduction in milling and other value adding. This change reflects the fact that log imports to the US are duty free while milled timber is hit with a significant duty at the border. This change roughly coincided with lack of Canadian support for the American invasion of Iraq.
There is growing interest in sawmilling and value adding among rural, coastal and indigenous communities. While multinationals hold much of the forest round communities, some forest areas have been ceded for community management.

Eco-Lumber Cooperative, Vancouver. Manager: Cam Brewer

Background. Eco-lumber is a new marketing cooperative set up to market FSC certified sawn timber from a range of private suppliers and forestry cooperatives. It was setting up new offices in a river side industrial estate when I visited in March 2003. The front office had a raised area for display of product, including flooring, cladding and veneer faced doors as well as furniture. The rear store had racks of timber up the walls and strapped packs on the floor. These included flitches of recycled and air dry timbers and packs of thin sawn sheets of cedar and douglas fir.
The business is the result mainly of the efforts of the manager, Cam Brewer, who had been working for an environmental group and had identified the need in the marketing process by far flung cooperatives of such a central business.
Structure. 7 board members. Members are in two groups, producer members and advocate members such as environmental groups (Suzuki Foundation and some other majors) and supporter individuals. Members buy a $100 share. Applications to join go before current members who have 2 months to object. No service use requirement. Have about 15 producer members. Have good support from advocate groups. Require 2/3 majority to approve major issues.
Funding. Need to sell $600,000 worth of product to generate necessary $100,000 operating funds. Currently in start-up phase. Cam Brewer worked for a year for no pay to set up the business. Initial set-up funding for office fit out, equipment and business plan from sale of equity shares, grants from eco groups and supporters.
Trading. Sales of milled dried recycled and FSC certified timber. Species include cedar, douglas fir, birch, oak, maple. Products include cladding, flooring. EL also sells a line of doors made by a one man operation. These use dense, high quality ¼" cedar veneer facing on a cheaper core, selling at CDN$700+. Normal mark-up 20% on wholesale and 40% on retail sales. Salvage and recycled wood can be marked up 100%.
Initial set up equipment. 2nd hand cantilever racks putting material up to 5m up walls (C$10,000). Each rack can carry about 5 tonne. Electric forklift (no fumes). Small hand move hydraulic lift trolley. Accumulating trolley for making up and strapping of dispatch packs. Roof and floor fans circulating air round drying timber.
Lessons learnt. Start up years need to be well supported by committed backers. Markets need to be already looking for niche product. Organisation needs to concentrate on high mark-up products in niche areas – ie. speciality appearance timbers, boat building, heritage building restoration.

Finally consider that in Sweden in the 1930's, private forest owners formed over 30 forestry marketing cooperatives to get better prices in a market dominated by industrial forestry. Mergers since then have reduced this to 6 large associations. Five of these now have their own mills and manufacturing facilities. These make up about 12% of Swedish sawmill capacity and 40% of raw pulp capacity. The six associations have a total of over 88,000 members with more than 6 million hectares of forest. About 44% of Swedish non-industrial forest owners are members. They produce about 28% of annual wood harvest.
The associations are divided into local groups of between 150 and 300, each with an elected board. Members buy a capital share in the association. This capital share often appreciates in value with one association showing a growth of 8.9% annually for the last 15 years. Members selling through the association may also receive a pro-rata dividend in that year.
The associations that began to gain better prices from industry, are now major players in the industry. (information from *Private forestland owners in Sweden*, David Kittredge. University of Massachusetts)

Similarly the Norwegian forest owners cooperative created its industrial arm Norske Skog, in the 1960's. Started in a garage with two officers and a part time secretary, it is now the world's second largest papermaker, recently buying the NZ forestry company Carter-Holt-Harvey for about $2 billion.