Joint Submission

To the House of Representatives Standing Committee on Agriculture, Resources, Fisheries and Forestry inquiry into the current and future prospects of the Australian forestry industry.

By

The Otway Agroforestry Network and the Australian Master TreeGrower Program
55 Main Street, BIRREGURRA, VIC. 3242,

The submission was prepared by

Rowan Reid (M. Forest Science, B. For. Sci.), Private Forest Grower, founding member of the Otway Agroforestry Network and National Coordinator of the Australian Master TreeGrower Program. CONTACT: rowan.reid@agroforestry.net.au Mobile: 0409609939 Web: www.agroforestry.net.au

Rowan Reid

On behalf of each group and with the approval of:

Mike Robinson-Koss - President of the Otway Agroforestry Network
Richard Moore – President of the Australian Master TreeGrower

The Otway Agroforestry Network (OAN) is a not for profit community group that facilitates the establishment and management of multi-purpose trees on farms in ways that help create a robust biological infrastructure to underpin the economic, environmental and social values of our agricultural landscapes. Formed in 1993, the OAN now have more than 200 landholder members and have been leaders in the development of innovative extension methods to support the harmonious integration of forestry and agriculture in our region. We currently have contracts under both the Farm Ready and Caring for Country programs.

The Australian Master TreeGrower Program (MTG) began in 1996 and has received funding from the Natural Heritage Trust, the Joint Venture Agroforestry Program and Land and Water Australia. Developed by The University of Melbourne the MTG delivers farmer education and extension programs. Ninety MTG courses have been conducted across Australia involving more than 1800 landholders and 30 partner organisations and agencies. In 2000, the MTG was awarded the $10,000 Eureka Prize for excellence in Environmental Education. In 2010, ownership of the MTG program shifted to a not-for-profit community group incorporated through the Victorian Farmers Federation (MTG Inc.).

Members of the Otway Agroforestry Network show Tony Burke what we mean by integrated multipurpose forestry on farms.

Our submission

The OAN and MTG welcome the opportunity to make a formal submission to the inquiry into the Australian forestry industry. We are pleased to see that the inquiry acknowledges that farm forestry (and hence agroforestry) is worthy of consideration and may well play a significant role in the future of the forest industry in Australia. Naturally, we agree.

In this submission:

- We argue that Australian farmers, and the land they manage, have the potential and willingness to produce commercial forest products and can do so in a way that satisfies many of the community's environmental social concerns surrounding industrial plantation development and public native forest logging.

- We explain why farmers are more likely to commit to the production of long rotation, high quality, native timbers in medium to low rainfall areas than other investor types.

- We identify ways in which governments, and other stakeholders, can effectively encourage and support farmer investment in forestry and highlight problems that can arise as a result of inappropriate policy and interventions, such as direct incentives.

- We provide examples of how multipurpose forestry can deliver a range of outcomes sought by private and public investors.

Of course, we appreciate that there is a need for an industrial plantation industry to produce the bulk of the wood required to support a domestic and export timber industry. We also recognise that there is a place for public native forest logging. However, our particular interest is in forestry by farmers, either alone or in partnership with other investors. In most areas this will involve new forests planted for agriculture, conservation and timber production. In some areas it will involve the improved management of private native forests.

Involving the farming community can add great value to the industry, help build community support for the forestry sector overall and provide a wide range of environmental and social benefits for those living in the agricultural landscape.

Andrew Stewart, OAN coordinator and MTG committee member, explains how agroforestry offers a solution to community concerns about the environmental impacts of plantations and native forestry to Luke Chamberlain, Wilderness Society Victoria's Forest Campaigner, and Lindsay Hesketh, Forest Campaign Coordinator for the Australia Conservation Foundation.

Recommendations

1. That the inquiry recognises the unique potential for **multipurpose forests** on farms to play a significant role in producing high quality commercial forest products across a wide range of sites and warrants particularly attention and support

2. That the inquiry recommends that public investment in land conservation and biodiversity enhancement within the agricultural landscape allow, or even encourage, a degree of carefully planned silvicultural management and harvesting of timber products

3. That the inquiry recommends that codes of practice for private forestry (which are a state matter) be out-come orientated, thereby allowing for innovation in harvesting practices (such as selective low-impact logging), rather than being prescriptive (based on assumptions about practices and their possible impacts).

4. Whatever the public good outcomes (carbon, timber, land degradation or biodiversity), the federal government should not fund or support direct incentive programs – tax breaks, up-front cash payments, free trees, low interest loans etc - that seek to encourage the adoption of 'desirable' revegetation projects by landholders, industry or other investors.

5. That government undertake a comprehensive review of the prospect for public investment in education, extension and community development to deliver the desired public good outcomes from forest development

6. That government ensure that any project adopting Market Based Instruments as a means of promoting public good outcomes be designed to ensure fairness (all providers, of all sizes, regions etc must be allowed to participate), allow multiple product and service options (for example allow the harvesting of forests receiving MBI payment for carbon or biodiversity), reward early adopters (not just new forests) and be funded for at least 20 years. If that is too difficult MBIs should not be used.

7. That government invest in forestry RD&E in ways that provides knowledge, confidence and support (indirect incentives) for innovation and investment by all possible investors in new forests. This new *Multipurpose Forestry R&D* organisation would work with a wide range of agricultural and industry organisations to explore how forests can deliver on their aspirations and opportunities.

8. That the committee make a visit to the Corangamite region to see for themselves the potential for public investment in participatory R,D & E to deliver widespread adoption of multipurpose forestry on farms producing high quality eucalypt sawlogs, premium bush foods (such as Shiitake mushrooms), biodiversity enhancement and soil conservation,

Fitting forestry into the agricultural landscape

In our view, *forestry by farmers* is different to *forestry on farms*. Realising the untapped potential for Australian farmers to produce timber and other commercial forest products is not about turning famers into plantation foresters, it is about adapting forestry so that it 'fits' the interests, aspirations and opportunities faced by farmers and the agricultural communities in which they live.

As private landholders, many of whom live and work on their own land, a forest can be much more than just a timber factory and it can deliver more than just a financial return:

You know, I've lived on this farm for 22 years and it just gets better and better, It gives us a great feeling every time we come up here. It's a beautiful landscape and it's improving every year. How do you value that? How do you quantify that? I guess, in simple terms this is the place we live, this is our life. People try and design a good life in many different ways, and often it revolves around income. But, you know, improving the landscape value gives you a better feeling about where you live. It's not something that you can value with money, it's just a feeling. It's where you live, and if it improves your quality of life it's a great thing. Noel Passalaqua, Master TreeGrower, Holbrook

Constraints and impediments to plantation development

The inquiry is clearly interested in understanding what might be constraining investment in timber plantations and are particularly interested in what it may take to encourage plantation owners and investors to commit to the long rotations required to produce large diameter sawlogs, grow specialty native timbers, and expand timber production into the medium to low rainfall areas.

Conventional wisdom, and presumably many of the submissions to this inquiry, will argue that plantation development is being limited by a shortage of suitable land, willing capital and supportive local government. The underlying assumption is that the forestry profession knows *what to grow* and *how to grow it*, but that they are held back by 'unfair' legislative hurdles, a lack of 'legitimate' financial and tax structures and an 'ignorant' community.

The truth is the opposite. A farmer-led, multipurpose approach to forestry development essentially eliminates these conventional barriers to forestry investment. If there you traditional investors have a problem with forestry, find someone who is interested and make forestry fit their circumstances.

Perceived constraint: High cost of land – Solution: Target land that is cost free

Farmers own more than 70% of our landscape. At least 10, maybe 20, per cent of every farm can be planted to trees without any impact on agricultural productivity. In fact, strategic planting of forests on otherwise unproductive land, as shelterbelts, along watercourses and in small blocks would enhance agriculture by reducing production losses due to extreme climatic events and help control, or even reverse, threatening land degradation processes.

Some will argue that this land is too expensive for plantation development because it is widely dispersed (amalgamation and development costs), held by many varied owners (transaction costs), unproductive (longer rotations carry greater interest costs), isolated (transport costs) and that the matching of species, management objectives and markets is too complex (mixed management objectives).

We believe that, by complementing rather than competing with agricultural enterprises, multipurpose forests planted on land that 'should never have been cleared' or 'would be better under trees' carry little or no 'rent', 'opportunity cost' or 'interest'. This land is essentially free. The question is: how might our silvicultural systems be adapted so that timber can be viably produced and harvested from this land?

Perceived constraint: The cost of time – Solution: see time as a tool for increasing value/quality

The longer the rotation the greater will be the cost of time. Conventional plantation models seek to cheat time through genetic selection, targeting high quality plantation sites, intensive site preparation, and the development of harvesting, processing and market options suited to small, fast-grown trees. Yet, despite their best efforts, time remains the greatest single cost associated with growing trees for timber – it will almost always be more than the cost of the land itself!

For example, a conventional plantation approach to growing hardwood sawlogs on high quality cleared farmland may incur the following major costs (based on our own experience):

Cost of land:	$10,000/ha
Cost of establishment:	$2,000/ha
Cost of pruning and thinning	$2,000/ha

Because these costs are all incurred very early in the plantation the interest forgone over the rotation is around:

$33,500 @ 5% real over 25 years
$62,000 @ 7% real over 25 years

Time is a cost like any other. It is time itself which is the greatest cost associated with growing high quality timber in conventional plantation forestry. This means that the high land and establishment costs can be justified if it means faster growth and shorter rotations. Slow growing forests on marginal farm land simply don't cut it, despite the low opportunity cost of the land or the high value of the timber produced.

It is this cost of time that means we harvest Red Cedar and Blackwood for furniture from our public native forests but plant Blue Gum for pulpwood in plantations.

In 2005, Forest and Wood Products Australia commissioned consultants to untangle the impediments to private investment in long rotation forestry and make recommendations to government. Not surprisingly they focused on greater tax incentives and new trading rules for the Managed Investment Schemes that would increase the up-front benefits to investors. What they didn't do is ask the simple question: *Is there another*

group within our community who would be willing to invest in forests that take 20, 30 or even 50 years to mature?

Rather than fight against time, we must find and work with those who are willing to harness time as an opportunity rather than a cost. With time on their side they would select species based on their wood quality, not just growth rates. They could justify growing timber on low quality sites or in low rainfall areas. They would grow the large logs that the mills need if they are to cut wide, clean quatersawn boards. Their long rotations would support greater biodiversity, use less water and store more carbon. If time was a friend, rather than a foe, there would be no cost to waiting a little longer for something a lot better.

Like sunlight, time is a readily available resource, that can help us grow quality forests that transform landscapes, enhance farming systems and build wealth. Time overcomes the need to plant trees on the 'best' land in the high rainfall areas. Time increases tree diameter thus increasing unity value, reducing harvesting costs, increasing recovery, reducing the need for high-tech processing facilities and increasing product value (wide boards). Time improves wood quality, increases wood density and stability and improves durability. Time overcomes the need for plantation uniformity and scale, intensive site preparation, improved genetic material, excessive herbicide and insecticide use and it also allows for a wider variety of species.

Time is a resource that can produce quality and value. Where there is a focus on quality, rather than quantity, farmers can start small and build a resource over a number of years. The cost of time (interest foregone) required to turn a young forest into a valuable timber asset is free because the trees are providing value as they grow.

The future of plantation forestry lies in working with those for whom time is free:

*Long term rotations of up to 30 years don't really present a problem to me because, well really…I think there's an opportunity there because, whilst the trees are there improving the farm productivity and environmental integrity of the property they're growing into timber … we're currently making our living from prime lambs and beef and the trees are assisting in that process so we have assured income, but the next generation, they'll gain the benefit of harvesting those trees then perpetuating the system by replanting (*Andrew Stewart, 4th generation farmer and coordinator of the Otway Agoforestry Network and Master TreeGrower)

Forests are a capital asset – not a crop.

Supported by conventional forest economic theory, the majority of those involved in the plantation sector argue that plantations are 'just another crop'. Yet, on the same basis this crop is too expensive to grow because

of the time it takes. Taken alone, financial analysis favours species and management options that produce lower quality timber and provide fewer environmental and social benefits than we all know a forest can if it is purposely designed, well managed and grown, and owned, for longer.

If you don't like what you see, change your position.

We argue that, rather than just being a crop, forests are a capital asset, part of the landscape or farm infrastructure. Like a new fence, the costs of a new multipurpose forest can justified because it adds value to the whole estate by making it more viable, more attractive or less risky. Ignoring any prospect of a commercial timber harvest, there are few farms in Australia that would not benefit from having more of their land under forests.

Like a fence, road or building, multipurpose forests on farms are a capital asset. The additional benefit is that they appreciate in value over time.

Perceived constraint: Cost of establishment and management – Solution: Get other values to pay

Conventional plantation economics demands scale and uniformity in order to minimise unit costs. The 'need', as they see it, is to minimise rotation length to reduce costs on borrowings (see above). This invariably means that each plantation requires a large investment up front. For example, most conventional plantation developers would argue that plantations less than 20 hectares (all planted to the same species at that same time) would be too small. Using the cost structures above this equates to more than $280,000 on plantation establishment and early management alone and an interest costs of more than $660,000 over a 25 year rotation.

Clearly, there are very few (real) investors who would be willing to commit to this for timber production alone. The solution, as they see it, is to get someone else to pay! This is usually governments.

The opportunity we see lies in the fact that trees and forests can be designed and managed to provide a wide range of environmental, social and economic values. Where this is the case the costs of tree establishment (and the cost of time) can be covered, or at least shared, by the other values.

The key is to work *with* those who value, or are able to capture, non-timber values from their forests. Interestingly, these people are rarely those who currently dominate the sector. In fact, as far as many involved in the industry these people are the opposition.

We all know that trees can provide useful stock shelter – but you must own stock in order to capture this benefit. We all know that well-designed forests attract birdlife and improve the landscape aesthetics – but, you need to be there, in the landscape, in order to enjoy these benefits.

If well-designed, the capital cost of tree establishment on this land can be shared by the agricultural, environmental and aesthetic values that the forest provides. There is very little additional cost in designing and managing these plantings with an eye on the prospect of achieving a commercial return (say, pruning and thinning). The solution is to work with those in our community who value the non-timber benefits that forests provide and to allow these values to contribute to the costs – any timber return would be a bonus!

Perceived constraint: Timber plantations are too risky – Solution: use plantations to reduce risk in other enterprises

With a huge up-front investment and no return until the trees are harvested the risks inherent in a conventional plantation model discourage investment. Fire, flood, drought, disease, loss of markets and sovereign risk are real – everyone knows the risks, any rational investor rightly looks to other opportunities.

The solution is to work with those in our community for whom owning a forest would reduce risk:

I see using commercial trees and habitat trees as part of the risk management strategy for our property. We have trees integrated into the landscape for their multiple values, but if, at the end of the day for whatever reason the trees aren't harvested they're still performing jobs for the farm. *The money we get from harvesting timber is a bonus. We prune and thin just so we can keep that opportunity alive.* (Andrew Stewart).

Acknowledging this changes our notion on what is worth planting and where. Farmers will plant trees because they want to *own* a forest – not an investment statement.

Multipurpose forests on farms – a very different investment model for timber production

When a forest is valued as an asset - part of the agricultural infrastructure of a farm or the ecological infrastructure of a landscape – the viability of growing timber is less sensitive to rotations length, rainfall, soil type, economies of scale than conventional timber plantations. Hence, the encouragement of multipurpose forestry on farms is likely to result in:

- a wider diversity of species (often native timbers) and management options (often focused on high value);
- a wider diversity of investor types which reduced the sensitivity of the sector to changes in market forces (such as the impact ton a downturn on investment in the MIS sector);
- a greater number of small and medium size businesses – more widely dispersed through the rural landscape – operating in the market to provide trees, contracting services, harvesting and marketing mechanism and processing options (compared to very large corporate business prone to collapse);
- greater emphasis on planting trees in the medium to low rainfall areas where conventional plantation forestry is seen as being unprofitable due to low yields and slow growth; and,
- more investment in the production of long rotations timber products (large sawlogs, durable timbers, cabinet species etc).


Pruned eucalypts grown for sawlogs supporting agricultural production on farms in medium rainfall areas of WA (left, salinity control) and Victoria (Spotted Gum, shelter)

A new economic paradigm for forestry – one that makes trees a commonsense investment

What we need is a more sophisticated understanding of forestry economics and risk that acknowledges that *quality* in forestry means more than the prospect of a positive Net Present Value or Internal Rate of Return (if it all goes to plan). We must recognise that, between the decision to plant and the decision to harvest, there is a forest that occupies part of someone's life and their landscape – that forest must be worth owning:

Test 1: Is the forest worth establishing?

There is no question that most farms would benefit almost immediately from fencing out waterways, regenerating degraded areas and establishing a web of shelterbelts and forest blocks. Other benefits might include access to a favourable taxation status or simply the personal satisfaction of getting involved in a new and worthwhile enterprise. It doesn't need to be expensive, planting in any one year only what you can afford and manage is easy, cheap and fun.

Test 2: Will the forest be worth owning?

Once established, the forest must continually justify its presence if it's to attract the ongoing investment required for maintenance and management. Benefits of owning a forest might include the stock shade and shelter, reduced land degradation, enjoyment and personal satisfaction, enhanced property value, or even new off-farm employment opportunities. If an owner perceives their forest as a threat or burden then they are unlikely to maintain the trees or their interest in any future income opportunities.

Test 3: Will it be viable to harvest?

Irrespective of the rotation length the only thing that ultimately determines whether a forest produces timber is harvest viability. Harvesting is only viable if the return from timber adequately covers both the cost of the operation and compensation for the loss of other values, with enough left over (profit) to ensure a degree of satisfaction. Unless they are left satisfied, farmers are unlikely to replant or manage their remaining forest with the view to harvesting again. There is no need for the harvest to pay for time if the forest was worth owning so growing high value species can be justified.

Whilst it is possible to provide grants and tax breaks to entice farmer to plant, it is the second test that makes forestry an attractive land use option. If silvicultural management (thinning and pruning) complements other values (biodiversity, fire protection, grazing, aesthetics etc) there is little cost in maintaining the option of a

future harvest of high quality logs. Indeed, if a forest is worth owning, there is less pressure for a premature harvest. Age improves the prospects of a viable harvest as higher log values and yields offset the higher costs associated with small scale operations. Time also increases the likelihood of being able to survive a downturn, or target a spike, in the timber market.

Time does not weary a forest worth owning
Richard Moore amongst high prune Spotted Gum in WA – The longer they grow the higher the quality

A simple example – veneer logs harvested from a landcare planting along an eroded creek

In 1987, Rowan Reid established a mixed species (native) forest along an eroded creek on his farm. No one would question that the site needed trees for conservation, aesthetics and shelter. But, can these same trees produce high quality timber and would it be viable to harvest?

The creek on Rowan's farm as it was in 1987 – trees were planted for conservation and shelter

Some of the tree species planted were selected for their timber potential and were pruned and thinned for high quality sawlog production. This kept the opportunity to sell timber alive in anticipation of the future closure of public native forest to logging, the halting of tropical timber imports and an increasing demand for sustainably produced hardwoods. Silvicultural management was a relatively small price to pay in order to be 'in the game' if indeed these things did come to pass (which they have).

Selective commercial harvesting of sawlogs began when the trees reached 40cm DBH (age 13, 14 and 16 years) although sawing studies on these logs suggested that selective harvesting would not be viable unless tree diameter was over 55cm DBH. So he waited – and the trees grew. Due to the wide spacing, native understorey flourished and native birds returned to the farm.

In 2010, a buyer seeking 'farm-grown' veneer timber approach Rowan to purchase small lots of high quality logs. A selective harvest from the riparian forest yielded 1.5m^3 of pruned veneer log/tree (65cm diameter) for which the buyer paid $300 standing (and an additional cost to cover the harvesting). The logs were sent to China in a container for processing and are to be returned to Melbourne to be marketed. Back on the farm, Rowan is inter-planting cabinet species and understorey to ensure an ongoing harvest – a perpetual forest (no clearfelling).

Rowan harvesting 22 year old pruned eucalypt logs from a mixed species riparian forest. The harvest, though small, is viable because careful management, and plenty of time, have ensured a high log quality.

The real constraints facing multipurpose forestry development

With land, capital and time no longer the major constraints facing the development of commercially viable forests there remain other factors that warrant government consideration including:

1. Landholder knowledge and awareness of the opportunities for multipurpose forest development, the design of forests for agricultural and conservation values and the factors which determine log value and harvest viability.

2. Outcome-orientated codes of practice for agricultural land management (different to plantation codes) that acknowledge that multipurpose forests are likely to be a more sustainable land use practice on sensitive sites (riparian, steep slopes waterlogged areas etc) than grazing or cropping.

3. Joint ownership structures (such as forestry rights but simpler) that make it easy for off-farm investors to partner with landholders to cover the establishment and management costs.

4. Clear government (all levels) and community (Catchment Management Authority, community groups and industry bodies) recognition that multipurpose forest management is likely to deliver greater environmental, social and economic values, at lower risk, than single purpose forests, be they for conservation or production.

Recommendation: That the inquiry recognises the unique potential for **multipurpose forests** on farms to play a significant role in producing high quality commercial forest products across a wide range of sites and warrants particularly attention and support

Recommendation: That the inquiry recommends that public investment in land conservation and biodiversity enhancement within the agricultural landscape allow, or even encourage, a degree of carefully planned silvicultural management and harvesting of timber products

Recommendation: That the inquiry recommends that codes of practice for private forestry (which are state matters) be out-come orientated, thereby allowing for innovation in harvesting practices (such as selective low-impact logging), rather than being prescriptive (based on assumptions about practices and their possible impacts).

A note about direct incentives and subsidies for plantation development

Over the last twenty years a variety of tools have been used by Governments and NGO's wishing to promote environmental revegetation and commercial plantations. These have included the use of publicity, policy changes, technical support, research, tax incentives, rebates, subsidies, loans, grants and joint ventures. Now that the trees have grown (or not, as is often the case) the relative merits of various extension methods have become clear: Direct incentives do not fare well.

What are direct incentives?

Direct incentives are direct in that they are focused on supporting selected, pre-conceived measures considered by the promoters as appropriate or desirable. They commonly involve a payment/rebate of cash or kind that reduces the cost of implementing the practice (cost-sharing, subsidised credit, free inputs or risk support). The payments are only available to a particular target group and only if they adopt the specific practices condoned by the promoters. In this respect, direct incentives are 'in-put' focused with the expectation that once the investor is committed the desired public benefits will follow.

The perceived need for direct incentives for investments that are presumed to be economically viable (commercial plantations, solar panels etc) arises when the promoters come to realise that the target group are either unable, or are reluctant to commit their resources. What makes the options unattractive is usually obvious: high up-front costs; long investment periods; opportunity costs (loss of agricultural production); high social, environmental or market risk; and, low perceived private benefit. Clearly, if the options were attractive then direct incentives would not be required!

Schemes that provide all or part of the up-front costs of establishing timber plantations, without the landowner giving up any property rights, are often eagerly taken up by landholders. This uptake is commonly presented as evidence that the key impediment to investment in timber plantations is simply the cost of 'getting started'. Once over the initial investment hurdle, landholders are expected to see out the regime (maintain the forest) with an eye on future timber revenue or environmental benefit thus ensuring public benefit.

So what's wrong with direct incentives?

We have many concerns about the use of direct incentives by governments to encourage private forestry. It is clear from the many examples around Australia that direct incentives can:

- Stifle farmer innovation and adaptation by not rewarding those who provide the benefits using alternative technologies (there are many ways to skin a cat).
- Reduce the number of potential recipients by pre-defining the target group despite the potential for others to contribute to the program goals (area restriction, farmer types etc).
- Fund projects that landholders were going to undertake anyway thereby achieving no net gain.
- Selectively benefit a minority within the target group or area who are in a position, at that time, to accept the requirements of the project (those not deriving an income from the land, tax situation, time of life etc).
- Encourage over commitment by specifying minimum areas resulting in an inability or reluctance to maintain the plantation (minimum area to be eligible).
- Reward mismanagement, neglect or inappropriate farming practices by targeting landholders whose past or ongoing management is contributing to the problem (e.g. grants to control erosion, weeds etc).
- Undermine "early adopters" by not rewarding those farmers who have implemented similar technologies prior to the availability of the incentives.
- Undermine the development of private local sector input suppliers (e.g. nurseries and contractors) by giving preference to suppliers that are able to deliver on large orders quickly.
- Discourage partnerships between landholders and private investors by denying opportunities for private partners to draw direct benefits.

This list raises issues about equity and competitive neutrality that governments need to be particularly wary of. With respect to the long term effectiveness of direct incentives there are other problems that are even more important:

- A long history of projects offering direct incentives can result in a welfare mindset amongst landholders to the point that many assume that conservation and tree growing are public, rather than private,

responsibilities. In fact, some landholders would not consider planting a tree without a grant! This discourages landholders from investing in forests irrespective of whether they think it is required or worthwhile because of the expectation that a future project may be available that will help cover the costs.

- The potential of project sites funded by direct incentives to act as demonstrations is questionable. The fact that the sites required a subsidy provides a clear signal to other landholders that private investment is likely to be unviable or unwarranted. Indeed, those who do accept direct incentives for the establishment of demonstrations often express a perceived lack of ownership ('they are the department's trees') and an expectation of ongoing support for the maintenance of the site. In many cases the sites end up as demonstrations of what happens when a forest is neglected.

Despite this long list, what concerns us most is that:

- Large, well-funded projects that provide significant direct incentives can undermine existing or potential participatory extension initiatives focused on similar outcomes. Almost by definition, direct incentives are incompatible with participatory development because they influence the strategic behaviour and attitude of landholders. The act of giving landholders money or in-kind support to adopt a pre-defined technological solution designed and evaluated by outsiders is paternalistic and top-down.

The damage done by direct incentive programs is done quickly and can take years to undo. Projects offering attractive direct incentives rarely last more than a few years. When the money runs out, extension programs, like our own, are left to try and rebuild their own credibility and the community's confidence in revegetation and forest management as a worthwhile private investment. Some people say that if direct incentives are the only support we are able to offer farmers then they are better than nothing. We argue it is preferable to avoid direct incentives entirely.

Are MBIs a form of direct incentive?

On the surface it would appear that the use of Market Based Instruments is an alternative to grants. MBIs are being used by some state government agencies to fund biodiversity conservation and are being considered for carbon sequestration. The assumption is that the owner of the forest is rewarded on the basis of the outcomes delivered rather than the inputs. However, closer examination of these programs will show that eligibility is restricted and multipurpose management (even if it actually enhances biodiversity) is discouraged.

A true MBI approach for private forestry is possible but there are real questions as to whether governments can actually deliver these without falling into the trap of pre-judging management options and viability, 'picking winners' or accepting the validity of multipurpose management options. For example, in Victoria even if it can be proved that the selective harvesting of timber would actually enhance biodiversity values, landholders are not permitted to do so under the Bush Broker arrangements.

MBI payments must not be seen as a contribution to the costs of adopting a particular practice. Rather, the payment should be based on the real value of the service to the community or the price required to encourage sufficient landholders to provide the service. Efficient farmers would then be able to profit from the payment if they are able to deliver the service at a lower cost.

Whether it is environmental improvement or commercial production, those seeking off-farm outcomes must be clear about what they want (product specifications), where they want it delivered (point of sale), how they will measure value (performance criteria), what they are prepared to pay (open priced market) and the method

of transferring the reward back to the grower (marketing arrangement). Although this will require credible performance indicators that are easily measured and directly related to the desired outcome it is not necessary to establish tradable markets or to achieve the levels of precision that such markets require.

It is important that public agencies offering MBI do not mix *their* objectives. Whilst land degradation control, biodiversity and timber production can be achieved from a single purpose plantation, project managers must ensure that those who deliver on any of these, simultaneously or separately, are rewarded. Separate reward payments are required for each outcome and farmers must be free to determine for themselves the balance that is most appropriate for them.

If well developed, reward payments are not the same as direct incentives because they are based on the outcomes rather than the inputs and do not discriminate between different technologies. Any landholder who can demonstrate that they are delivering public good outcomes would be eligible irrespective of how they achieve them or when they made the investment decision. This encourages innovation and integration and might be expected to reduce the amount the government needs to pay for the same degree of benefit over time.

Importantly, this method leaves landholders and investors to determine who they will work with, what trees will be grown where, how they will be managed, and how they will share the costs and benefits. However, if there are insufficient funds, or a lack of long term commitment, then governments should not implement MBIs.

A note about MIS

We do not intend to be drawn into the MIS debate. However, it is clear to us that the MIS arrangements do allow a particular group of off-farm investors to pocket an up-front tax-break of such size that they have little real ongoing interest in whether or not the trees actually produce anything. The lack of interest shown by the investors in the values of actually owning a forest, or the products and services it may provide, suggests they are not buying a forest – but a tax-break. If it smells and tastes like a direct incentive.....

Recommendation: Whatever the public good outcomes (carbon, timber, land degradation or biodiversity) the federal government should not fund or support direct incentive programs – tax breaks, up-front cash payments, free trees, low interest loans etc - that seek to encourage the adoption of 'desirable' revegetation projects by landholders, industry or other investors.

The alternative to direct incentives and ad hoc MBI's: indirect incentives and capacity building

To be effective, forestry development projects must support innovation, reward initiative, build confidence, stimulate private investment and encourage appropriately designed and managed forests. The arguments for a public contribution to the management of private land based on the external benefits and public goods provided are well founded. However, the adoption of direct incentives is not the only possible response.

A simple alternative is to invest in indirect incentives and capacity building.

Whilst direct incentives encourage the adopting of selected practices that experts believe will deliver the public good outcomes, indirect incentives focus of enabling landholders and their investment partners to develop and implement practices they believe are in their interests. These 'indirect incentives' have also been called 'policy-level', 'variable' or 'enabling' incentives.

We believe governments should fund projects that enhance community capacity, build the required physical and social infrastructure, and ensure policy and regulation that favour those willing to innovate and invest in

practices that deliver public goods. Even a short period of investment in these areas can deliver fundamental changes in the social, political and economic environment in which farmers, investors and interest groups make decisions that affect how our land is managed and the values it provides.

The main areas of government investment required to support quality long term multipurpose forestry development are: Extension, Research, Infrastructure and Policy

Extension

Extension should involve supporting landholders and off-farm stakeholders through the design and implementation of practices that are in their own interest, yet are expected, on balance, to deliver public good outcomes. This is often described as 'building capacity' and is best done by involving the community (participatory development).

The degree to which this investment will result in better public outcomes depends on the extent to which the aspirations and motivations of landholders, community groups and private sector stakeholders are compatible with those of the wider community. Fortunately, a high percentage of Australian landholders want to grow trees to control land degradation and enhance nature conservation.

I want to pass on the farm in a better state than when I took over
(There is no doubt that trees can help achieve this commonly stated goal)

Rather than subsidising preferred options ('best-bet' plantations, as defined by 'experts'), government investment should focus on facilitating the marriage of the desired public good outcomes (be they timber, greenhouse benefits, biodiversity, etc) with individual's private goods/aspirations/opportunities.

This is the approach that the Otway Agroforestry Network and the Australian Master TreeGrower Program have taken for more than a decade. The results indicate that:

- Landholders are willing to invest their own time and land into multipurpose forests that deliver both private and public good outcomes.
- Many landholders are able to form mutually beneficial partnerships with off-farm investors (including family members, industry, NGOs) to help fund the establishment and management of new plantations.
- Landscape change takes time, but when delivered through community participation it is more acceptable to non-participants, more likely to be effectively managed, more complementary to other land uses and more environmentally sustainable.

One approach that has proved very successful in both rewarding innovation and engaging landholders is simply to acknowledge and pay innovative farmers and private service providers for their time supporting other landholders. Rather than fund a demonstration of trees on their land, the innovative farmers themselves should be seen as the 'demonstration' and paid to conduct field days and make presentations. Experienced or qualified farmers could also be paid to engage other landholders, manage local projects and represent farmer interests. Working in a team, with government project staff and scientists, paid landholders and industry members can enhance project credibility and strengthen community support.

The Otway Agroforestry Network and Master TreeGrower Program Peer Group Mentoring initiative which trains leading tree growers and pays them to support others in their community through the development and management of multipurpose forests has proved popular with farmers and appears to be delivering real on-ground impacts.

The Otway Agroforestry Network Peer Group Mentoring team discuss the finer points of mentoring

Research

Public investment in agroforestry and farm forestry RD&E, aimed at providing sound, scientific knowledge that can inform landholders and investors (without promoting best-bets), is one of the easiest and most cost effective ways that government can provide indirect incentives for forestry innovation and development. There is much that we need to know about multipurpose systems, such as: how selective harvesting of high quality logs can be done in ways which enhance biodiversity; the value of multipurpose forests as refuges for beneficial predatory insects for agriculture; wood quality of local native timber species in regions of high biodiversity loss; ways that strategic farm plantings can enhance property values; etc etc.

On balance, the Joint Venture Agroforestry Program (managed by RIRDC) and Land and Water Australia were both very effective in providing value-free, practical knowledge in this sector. Their problem was that single-interest groups (be they agricultural, forestry or environmental) did not appreciate the value of supporting multi-disciplinary research. They thought they could go it alone. Interestingly, it is landholders, rather than the industry or interest groups that purport to represent them, which are left to balance the many values of land, forests and agriculture. To compromise is strength, it is not a weakness.

Policy and Infrastructure

There is much that governments can do to change the environment in which landholders and investment partners make their decisions. In addition to funding the development and distribution of knowledge government can develop public policy, support infrastructure and open new funding opportunities or markets.

For example, the new building regulations in Victoria regarding the use of timber outside require that each species has a fire rating. The cost of getting a rating is high. As a result, farm grown species (such as Sugar Gum), which would clearly achieve a high rating, is not able to be used because not individual is able to justify the costs of the test. A small public investment would open up a huge market for farm grown timber in Western Victoria.

We would welcome the opportunity to explore these issues in greater detail.

Governments must act.

Governments must invest in rural landscapes to ensure that they deliver the full range of public and private benefits we as a community require. Whilst some farmers will expect hand-outs and some interest groups will demand that the public environmental dollar is invested in 'on ground works' this does not make direct incentives the best option. We need only look at the success, or otherwise, of past programs to know that direct incentives will not be the catalyst for the long term landscape changes we require.

If government want private landholders to invest in long rotations forestry across a wide range of species and landscapes they must provide the research, development and extension support in a fair and equitable way and allow those involved in owning forests to design and manage them as they wish (within the laws and norms of their communities).

Government support for groups like our own is a cheap and effective means of supporting change in rural communities. By encouraging action without promoting particular solutions governments are able to stimulate innovation which marries the diversity of public and private interests:

If you ever wanted to find an example of how all these issues come together – food, climate, environment – it's to look at the work being done in the forestry areas in Corangamite (i.e. The Otway Agroforestry Network).
Hon. Tony Burke, Address to the 2010 National Landcare Forum, Adelaide, 23rd March 2010

Recommendation: That government undertake a comprehensive review of the prospect for public investment in education, extension and community development to deliver the desired public good outcomes from forest development

Recommendation: That government ensure that any project adopting Market Based Instruments as a means of promoting public good outcomes be designed to ensure fairness (all providers, of all sizes, regions etc must be allowed to participate), allow multiple product and service options (for example allow the harvesting of forests receiving MBI payment for carbon or biodiversity), reward early adopters (not just new forests) and be funded for at least 20 years. If that is too difficult MBIs should not be used.

Recommendation: That government invest forestry RD&E in ways that provides knowledge, confidence and support (indirect incentives) for innovation and investment by all possible investors in new forests. This new *Multipurpose Forestry R&D* organisation would work with a wide range of agricultural and industry organisations to explore how forests can deliver on their aspirations and opportunities.

Other commercial forest products

There is much enthusiasm within the forestry community regarding the prospects for biofuel and carbon sequestration. Whilst we do see opportunities for these emerging markets to support the development of sustainable multipurpose forests it is important that governments and communities do not fall into the trap of believing that these markets can, alone, stimulate a new wave of investment in forests that will somehow avoid the unforeseen negative social and environmental impacts.

Carbon Forests

Because 50% of wood (by weight) is carbon, a cubic metre of wood growth equates to about one ton of carbon dioxide. But, just because planting trees locks up carbon we do believe that planting forests should be allowed

as an offset for burning fossil fuels. You won't hear too many tree growers say that so let us explain: The problem is that living trees and forests are not a secure sink for locking up carbon from coal and oil, and no amount of legislation and international agreements can make it so.

Under the Kyoto rules planting a forest on land devoid of trees in 1990 can be used to offset carbon pollution released by burning fossil fuels. On the surface this sounds like a perfect means of funding revegetation. But, a farmer who sells the carbon in their forest is taking an enormous risk:

- The price they get for their carbon will be much less than the market price because of the cost of trading, measurement and verification. If they ever want to buy it back they'll need to pay the full market price.
- It is the seller that is responsible for ensuring the carbon stays in the forest for the next 99 years. This means they carry the risk of fire, disease and drought.
- Having sold the carbon their farm must be worth less because the buyer takes on the liability.
- The Kyoto rules do not recognise the value of carbon stored in timber products despite the fact that solid wood can be a medium term, and arguably more secure, carbon store.

Then, if government introduces free-market type legislation (like the ETS) that allows big polluters to offset their emissions by planting trees the picture gets worse:

- If buying farm land and planting trees is cheaper than carbon capture and storage we are going to see competition for land between food and trees.
- Big carbon forest investors tend to just plant the trees and walk away. If their forests do not provide any local public values then this is arguably just another form of land and social degradation.

For trees to be a realistic offset for burning fossil fuels then the trees would need to be cut down and the wood buried deep in the ground. Harvesting timber for use in long term stores like housing and furniture is a good start. Like other forms of farming, we can harvest and store carbon from forests over and over again – but only if the trees are cut down. Unfortunately the politics involved in changing the rules to the point where they encourage the harvesting trees to store carbon probably means that it will never happen.

Of course there is a place for trees in meeting the challenge of climate change. Every tree planted for shade, shelter, timber, food, biodiversity, erosion control and aesthetics locks up carbon. The need for climate amelioration and income diversification in the face of climate uncertainty will drive revegetation on farms. But, as they say, "*for every complex problem there is a simple solution which is wrong*". Treating all carbon as the same whether it is in the form of fossil fuels or forests is not the answer.

A tax on fossil fuel carbon to support, amongst other things, government investment in multipurpose forestry research, development and extension would deliver, in our view, better market prices of timber (as a low-carbon alternative) and encourage new forests that were managed for conservation and profit.

Governments need to find ways of supporting multipurpose revegetation of farms that do not result in perverse outcomes and spread the risks fairly. In return, the community will get medium term carbon sequestration (in both wood and forests) and carbon-neutral products like wood and biofuel, as well as a biodiversity, sustainable agriculture, clean water and vibrant rural communities like ours.

Biomass and biofuels

We seem to be on the verge of the development of commercially viable opportunities for decentralised energy (both heat and electricity) production from wood-fired plants. The commercially viable production of liquid fuels from wood may be some time off but is likely to be accelerated as the price of carbon pollution from fossil fuels increased. Whether bioenergy can directly fund and drive plantation development is less certain.

The costs of harvesting and transporting wood are already limiting the harvest viability of small diameter, low value wood products such as pulpwood. Looking forward, the price of liquid fuels is likely to increase (with or without a price on carbon) putting further pressure on the viable transport distance. For these reasons the development of wood based biofuels is likely to depend on waste products of other viable forest operations.

For example, a high quality sawlog can be transported hundreds of kilometres to a mill. When it is sawn almost half the total volume is unrecoverable as sawn product. A biomass energy plant attached to the sawmill would incur no transportation costs and be able to feed both heat (for kilns or other industry) and electricity (close to the grid). In essence, this is the sawlog, which is able to pay for the harvesting and transportation of the log, that makes the biofuel plant possible.

This demonstrates the value of multipurpose forests. To extend this example further:

1. The land degradation and need for shelter pay for the cost of planting trees on farms
2. The agricultural and environmental benefits pay for the cost of owning the forest
3. The opportunity of a future commercial return pays for the management (pruning and thinning)
4. The higher value of the sawlog (or other product) pays for the higher harvesting and transporting
5. The waste from the processing provides a free resource for biofuel production. This opportunity adds value back through the chain thus allowing the buyer to pass on a greater return to the landholder/investor

Multipurpose outcomes provide a solution to issues around competition for land

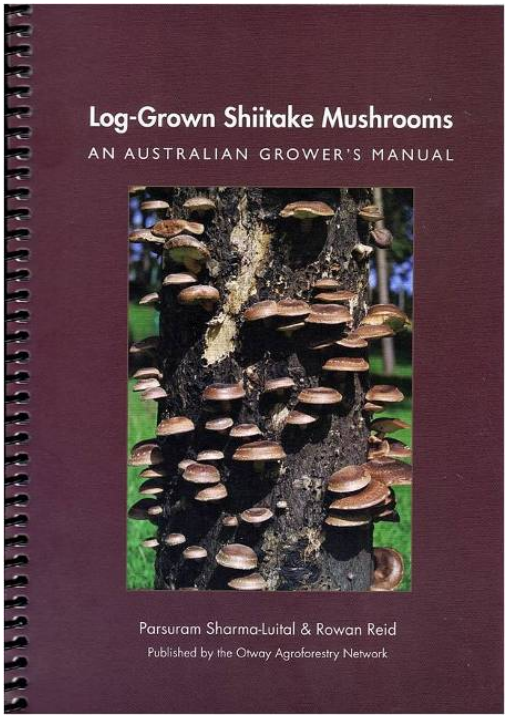
The conundrum for forest investors is that conventional measures of plantation profitability are closely related to the growth rates and productivity due to the costs associated with time. Not surprisingly, areas with high growth rates are also highly productive for other land uses and are, particularly in Australia, commonly located close to the coast where the majority of us choose to live.

Efforts to fight the cost of time have encouraged a focus on large scale monoculture plantations producing small diameter logs which are invariably more expensive to harvest and transport. It is an expensive and risky approach to adopt as a foundation for a plantation industry. And, it all happens while there is an obvious need for trees in the medium to low rainfall areas and a willingness of farmers in high rainfall areas to strategically plant a percentage of their farms for conservation and agricultural values.

It's time Australian forestry took another path: *Multipurpose forests for conservation and profit*

It all makes perfect sense when you see it yourself *(Photos from recent visits by federal parliamentarians to the Otway Agroforestry Network). The OAN and MTG would like to invite the committee to visit to see for themselves the commonsense that underpins this alternative view on how farmers might participate is the Australian Timber Industry.*

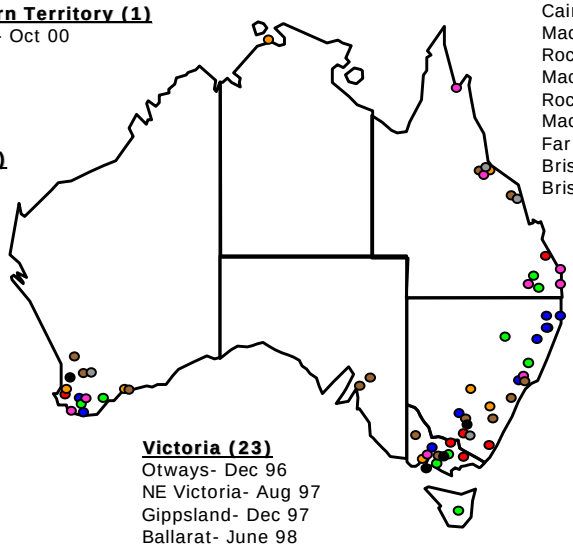
Recommendation: That the committee make a visit to the Corangamite region to see for themselves the potential for public investment in participatory R,D & E to deliver widespread adoption of multipurpose forestry on farms producing high quality eucalypt sawlogs, premium bush foods (such as Shiitake mushrooms), biodiversity enhancement and soil conservation (we do a great lunch).



The Otway Agroforestry Network has pioneered the development of Australian Log-Grown Shiitake Mushrooms. This high value product is grown on the thinnings of our multipurpose eucalypt sawlog forests.

Queensland (15)
Nambour- Oct 97
Beaudesert- Aug 99
Ipswich- Nov 99
Mackay - Feb 00
Mackay - Feb 01
Boonah- March 01
Cairns - June 01
Mackay - Feb 0
Rockhampton - May 02
Mackay - Mar 03
Rockhampton - Mar 03
Mackay – April 06
Far North Qld – Oct 2006
Brisbane (South) Mar 09
Brisbane (North) – Mar 09

Northern Territory (1)
Darwin - Oct 00



Western Australia (18)
Bridgetown- Aug 97
Duranillin- Aug 98
Albany- Oct 98
Kojonup- March 99
Wellstead- Aug 99
Busselton- Feb 00
Esperance- March 00
Denmark- Sept 01
Kataning- April 01
Northam- Feb 02
Esperance- Aug 02
Moora- Sept 02
Avon – Mar 03
Bridgetown – Aug 03
Serpentine – June 05
Perth – June 09
Bridgetwon – Dec 10
Avon – Aprill 11

New South Wales (31)
SW Slopes- Aug 97
Eden- Dec 97
Dorrigo- April 98
Hunter Valley- Oct 98
Wagga- Nov 98
Hastings- June 99
Armidale- Oct 99
Young- Feb 00
Goulburn- July 00
Hunter Valley- June 01
Gloucester- June 01
Nambucca- Feb 02
Wagga- March 02
Little River – April 02
Nambucca – Aug 02
Sth Tablelands- Sept 02
Port Macquarie- Oct 02
Holbrook – April 03
Bollanola – July 03
Macleay – March 04
Broken Hill – Oct. 04
Belingen – March 04
Holbrook – Dec 05
Hunter – June 06
Port Macquarie – April 06
Manning – Nov 06
Kempsey – May 07
Moree – May 08
Dorrigo – May 08
Hunter – May 08
Coffs Harbour – July 10

Victoria (23)
Otways- Dec 96
NE Victoria- Aug 97
Gippsland- Dec 97
Ballarat- June 98
Seymour- April 99
Geelong- June 99
Colac- Oct 00
Kyneton- June 01
Gippsland- Aug 01
Wimmera- July 02
Bacchus Marsh- July 02
Wimmera – Aug 03
NUFG – Aug 03
Upper Goulburn – Oct 05
Bendigo – Dec 05
Otway – May 06
Gippsland – Oct 06
Bendgio – Sept 08
Otway – Dec 08
Wimmera – Sept 09
Hamilton – Sept 10
North East Victoria – Nov 10
Volcanic Plains – April 11

Tasmania (1)
Midlands-
July 99

South Australia (2)
Adelaide Hills- April 02
Adelaide Hills – May 06

Locations of the 90 Master TreeGrower Programs conducted between 1996 and 2011