

Australia's Joint Venture arrangements

Introduction	3
Australia's Softwood Forestry Agreements Acts	3
Joint Venture Agreements	4
Industry reform.....	4
Why did Australia develop these Instruments?	4
Australia's Softwood Forestry Agreements Acts	4
Joint Venture Agreements	5
How did/does this Mechanism Operate?.....	6
The Queensland Plantation Joint Venture Scheme.....	6
How successful were these schemes in engaging small landholders?.....	7
Future Directions	8
What is required for this mechanism to work?.....	9
What basic elements are needed?.....	9
Emphasis on financial returns	9
Focus on fast-growing plantations.....	9
Quantification of market and non-market benefits.....	10
Regulatory and tax changes.....	10
Bibliography	11

Introduction

Since European settlement most forest land in Australia has been cleared for agriculture. This has been reversed since the 1980s, with most plantations now having been established on previous agricultural land.

Australia's now amount to around 1.57 million hectares, and the country is increasingly dependent on them as a primary source of wood and forest products, both for export and domestic use. Their evolution largely reflects the timber industry's, and Australia's, transition from the goal of self sufficiency underpinned by commercial development with direct incentives, to ecological sustainable development both supported and driven by broader micro and macro economic reforms. In line with this change, indirect are replacing direct incentives in places, with the private sector progressively replacing government in terms of hands-on management and investment.

Australia's State of the Forests (SoF) Report has identified that approximately 70% of the nation's forest resources were privately owned or managed as recently as 1998 (NFI, 1998). This was considered to be a significant milestone, as State forestry agencies held the majority only 10 years previous. This turnaround is due to the privatization of previous State owned pine plantations in several States and the expansion of private plantings.

More recent statistics show that the combined resource of standing planted forests in Australia was 1.6 million ha planted to December 2001 (Year Book Australia, 2003). Of this total, industrial plantations comprised approximately 1.5 million ha, with the remainder covered by a range of joint ownership arrangements.

The increase in private ownership of plantations has increased investment opportunities, and has developed a more competitive industry. Of the total plantation resource, around 5% is now contributed directly by farm foresters, with a further 20% contributed by farm foresters participating with industrial growers through leasehold and joint venture arrangements (National Plantations Inventory, March 2002).

Australia's Softwood Forestry Agreements Acts

Since most of Australia's timber imports consisted of softwoods in the 1960s, the States and Commonwealth formulated a policy of self-sufficiency in softwoods by 2000. This was formalized in agreements made under the Softwood Forestry Agreements Acts of 1967, 1972 and 1976. Under these Acts, loans made on annual basis from 1967 to 1982 enabled purchases of land as well as the establishment and tending of an additional 100,000 hectares (approximately) of new softwood plantations. This committed the Commonwealth to provide favourable loans (totalling \$78.1 million) to the States to establish and maintain softwood plantations.

The Softwood Loan Agreements were very successful, expanding the overall plantation estate from around 170,000 hectares to nearly 900,000 hectares. While not initially aimed at the private sector, this initiative was instrumental in enabling the State Governments to dramatically increase plantations during the 1960s and 1970s, and without this incentive, the softwood plantation industry would not have reached its present large scale. These plantations became the basis for the wide range of domestic wood processing facilities developed subsequently (e.g. pulp mills).

Victoria and Tasmania are progressively privatizing their softwood plantations, parts of which were established under these initiatives.

Indirectly these incentives were also responsible for a rise in environmental awareness, due to the establishment of large-scale plantations of exotic species and clearance of some native forests for plantations.

Joint Venture Agreements

Joint venture arrangements first appeared to any extent in the mid- to late- 1980s, often between State Government forestry agencies and private landowners. With the Commonwealth Softwood Loan Scheme coming to a close, States saw joint ventures as one option to continue the growth in commercial plantations and to promote smaller scale farm plantations. Since then, it has become an important tool in plantation development, especially as a mechanism to attract overseas investment.

Industry reform

Since the 1990s there has been a dramatic increase in the establishment of private plantations with 89% of new areas planted being on private land in 2001 (Wood et al., 2002). A diverse range of ownership arrangements now exist in the Australian plantation industry, including joint venture and annuity schemes between public and private parties. Of the 2001 standing plantation estate of 1.57 million hectares, it is estimated the majority (54%) are now privately owned.

The end result of a series of reforms comprises the evolution of Australia's forest plantations over four phases, with the standing estate having increased by 1,263,232 hectares (513%) since 1965-66 (when major growth in plantations began). These phases largely reflect the timber industry's, and Australia's, transition from the goal of self sufficiency underpinned by commercial development with direct incentives, to ecological sustainable development both supported and driven by broader micro and macro economic reforms. In line with this change, indirect are replacing direct incentives in places, with the private sector progressively replacing government in terms of hands-on management and investment.

By 2002, many of the impediments to plantation expansion (especially for private investment) had been addressed, either by removing the impediment (e.g. woodchip export restrictions) or improving the commercial operating environment for private investors to establish plantations. The community had also begun to acknowledge the positive biodiversity and environmental benefits arising from plantations being incorporated into traditional agricultural areas, resulting in most plantations now being established on previous agricultural land. Diverse ownership arrangements now exist, including joint venture and annuity schemes between public and private parties. Plantings are changing from softwood to hardwood in response to overseas demand. Notably, 87% of the total standing hardwood plantation has been planted since 1990.

Why did Australia develop these Instruments?

Australia's Softwood Forestry Agreements Acts

The widening gap between forecasts of demand and domestic supply became clear after the Second World War, as the post War building boom led to increased demand and concerns rose

over the level of softwood imports and sustainability of native (hardwood). It became clear that native forests could not sustain high harvesting rates in the long term, let alone meet rising demands. Increased plantations were seen as the solution to increasing timber supply and reducing imports. Commonwealth and State Governments jointly advocated a significant increase in pine (*Pinus radiata*) plantations.

The States aimed to increase their planting rate from 16,000 hectares a year to 28,000 hectares a year, so that Australia would be largely self sufficient through a plantation estate of 1.2 million hectares by the year 2000. In 1966 the Commonwealth provided generous, low-interest “Softwood Loans” to the States so their planting could increase by 26,000 hectares a year. In addition, private growers were encouraged to plant 4,000 hectares a year.

The loans were attractive to the States because of a 10 year interest free period. Made from the Commonwealth’s Consolidated Revenue Fund, they were repayable over 20 years with repayments commencing 15 years after the date of each advance. This ‘grace’ period of 35 years matched the planned harvest time of the trees, assuming sawlog rotations used at the time. The agreement also provided for interest to be either capitalized over the deferment period or paid as it fell due. Interest was paid at the long term bond rates prevailing at the time of payment.

Throughout the 16 year period of the Forestry Agreement Acts, over \$78 million was loaned to the States. This period saw few small-scale forestry operations established. Companies were still largely Australian owned, as foreign investment in forestry businesses had not yet begun to make its mark.

State agencies used the Softwood Loans mainly to plant trees for sawlogs, seen at the time to be the dominant timber need of the future. Species included *Pinus elliotii*, *Pinus pinaster*, *Pinus caribaea*, *Araucaria spp*, *Eucalyptus pilularis*, *Eucalyptus grandis* and *Eucalyptus regnans*. The species of choice was *Pinus radiata*, grown on various rotations of 30 to 40 years depending on the silvicultural regime. These rotations were considered to be remarkably short when compared to native forests rotations of 80 to 100 years or more.

In the end, the Softwood Loan Agreements were regarded as being very successful, expanding the overall plantation estate from around 170,000 hectares to nearly 900,000 hectares. Without this incentive, the softwood plantation industry would not have reached its present large scale.

Joint Venture Agreements

With the Commonwealth Softwood Loan Scheme coming to a close, States saw joint ventures as a viable option to continue growth in commercial plantations and to promote smaller-scale farm plantations. Since then, it has become an important tool in plantation development, especially as a mechanism to attract overseas investment.

During this period, gains made during the previous Phases were consolidated. Increased investment by States and large plantation owners created a supply driven demand for plantation timber (both softwood and hardwood), which reduced the capital risk and generated an incentive for other investors. Research into growth and management was undertaken. Importantly, it created the will to resolve the underlying broader structural impediments.

How did/does this Mechanism Operate?

Curtis and Race (1998) described three different types of joint venture arrangements that have contributed to the planting of some 82,900 ha, or 8% of the country's plantation estate from the mid-1980s to the late-1990s:

- In lease joint ventures, the farmer signs over the land in a lease to industry. Such schemes are attractive to commercial farmers and smallholders, as regular payments are made and indexed over an agreed period. With annual lease payments ranging from US\$90 to \$170 per hectare per year, returns are considerably higher than in many neighbouring grazing enterprises.
- Cropshare joint ventures are those in which the landholder and industry or government partners contribute inputs and proportionally share returns at harvest, based on the market price. Cropshare schemes are often attractive for underutilized agricultural land, particularly land with poor access and low productivity that does not suit industry needs.
- Market joint ventures guarantee a sale for the grower, and are usually based on the market price at the time of harvest. The grower is required to offer the industry partner the first option of purchase, but if a better price can be found, the grower may sell to another purchaser.

Under these schemes, Governments attempted to target farmers and smaller landholders (i.e. of less than 1,000 hectares) with incentives rather than large companies, in order to increase investment in forest plantations in the sector. As a result, forestry plantations were increasingly being established on previous farmland rather than using native forest. Although this was a relief to the predominantly urban conservationists, it also raised concerns among the farming community that their traditional livelihoods would be altered.

Experience in Western Australia provides a good example of a successful program, where farmers developed large eucalypt plantations, primarily for pulpwood, in joint venture arrangements with funding from overseas investors. The investors were mainly in the pulp and paper industry and sought to secure reliable high-quality supplies from a stable location.

The Queensland Plantation Joint Venture Scheme

Another example is the Queensland Plantation Joint Venture Scheme, which was devised on the basis of accumulated experience from other states, and particularly NSW. Three regions in the state were selected, with joint venture plantings only being established on sufficiently fertile land that had an average annual rainfall above 900 mm and regulated slope criteria. Selection criteria also required that land parcels were at least 10 ha per landholder and the land had to be located within 200 km of the nominated major cities, preferably near existing government plantations.

The Joint Venture program was inaugurated by the State Government in late-1995 primarily to encourage expansion of forest plantations on private land through risk and capital sharing, the provision of advisory and extension services and to test existing legislation and policy restraints. Other objectives of the program were to assess the viability and environmental benefits of farm forest plantations, to use the sites for demonstration purposes and to promote more widespread acceptance and adoption of tree farming.

By mid-1999 approximately 65 sites had been established with more than 900 ha of trees having been planted. The main species consisted of Gympie messmate (325ha), Hoop pine (286ha), Spotted gum (104ha), Red mahogany (99ha) and Chinchilla white gum (75ha).

Under this scheme, a joint venture deed is signed between the landowner and the Primary Industries Corporation. Neither party to the agreement may have greater than 80% equity, with shares varying over time due to land rental and discretionary inputs of the landholder. In addition, the landholder must carry out tasks such as weed control, fertilizing, thinning and pruning to a standard required by the Department of Primary Industries (DPI) Forestry. Alternatively, contractors may be employed to undertake these tasks and in this case, payment may be made by government or the landholder. Under the joint venture schemes in both states, the landholder has clear title to the land and so may sell it at any time, providing that the joint venture arrangement transfers to the new owner.

Revenue is expected to be generated from commercial thinnings approximately 10-15 years after establishment, with expected later harvests of poles and sawlogs up to 25 years after establishment. The capital requirements for a 10 ha planting could be expected to be of the order of A\$20,000. Assuming a harvest age of 40 years, MAI of 20 m³ and stumpage price of A\$60 m³, the gross return at current prices would be A\$48,000 ha.

The documented motivations of landholders participating in the Queensland Joint Venture Scheme suggest that environmental as well as commercial considerations are important for landowners involved in the scheme. And in a recent survey (Harrison et al., in press) landowners said that the main perceived strengths of the Plantation Joint Venture Scheme was the provision of technical expertise in growing trees by DPI Forestry, followed by the opportunity to generate financial returns, then input of capital by DPI Forestry. Landscape amenity and conservation benefits, and land rehabilitation are also considered important.

How successful were these schemes in engaging small landholders?

Bhati et al. (1991) summarise the key findings of a number of reports during the 1980s, when government subsidies were in their relative infancy. They note that a case study done by Dunchue (1990) of eucalyptus woodlot scheme offered by APM Forests in Victoria found the scheme established only about half its target area. Reasons farmers gave for not participating included: loss of productive land, initial cost of establishment and lack of information about forestry investments (uncertainty and risk).

Byron and Boutland (1987) reviewed the effectiveness of many incentive schemes operating. They claim farmers and other smaller landowner target groups did not take up incentive schemes because they were designed with the interests and resources of the sponsors in mind, rather than the needs of the client landholders. Reasons for lack of success included:

- Cost of finance (investment loan interest rates up to 20%);
- Many farms were too small to support viable woodlots in combination with agriculture;
- Decision-making was influenced by agricultural priorities;
- Varying levels of expertise [of growers?] from innovative and successful to very poor;
- Slow return on investment;
- Uncertainty of markets, exacerbated by a lack of political or marketing leverage; and
- Doubts about the future taxation liabilities.

In contrast, the 1990s largely represented the realisation of previous work and lessons learnt from the preceding 30 plus years of government policy aimed at increasing afforestation levels, leading to what became the highest sustained growth in Australia's plantation development and total area. The joint venture agreements of the 1990s were combined with a number of revisions to the tax code, along with an opening up of the economy, which led to an unprecedented increase in private afforestation levels.

As noted earlier, by the late-1990s joint venture arrangements had contributed to the planting of some 82,900 ha, or 8% of the country's plantation estate. Most of the action in plantation development in this period, however, still occurred in the large industrial sector. State Governments still used subsidies in the form of infrastructure grants to attract industries to their regions and rural areas in particular.

More than a third of the current total farm forest resource was planted since 1995. This period saw a major shift from softwood to hardwood establishment, mirroring a national trend in plantations. By the Programme's end, farm forestry had contributed approximately 5% to the total plantation resource and 12% to the total privately owned resource. A further 11% approximately of industrial plantations came from leased or joint venture arrangements of farm land.

Future Directions

Since the launch of the Plantations 2020 Vision (a partnership between federal and state governments and the plantation timber growing and processing industry) in 1997, more than half a million hectares of new plantations have been established - an average planting rate of around 87,000 hectares per annum. The overarching principle of the Plantations 2020 Vision strategy is to enhance regional wealth creation and international competitiveness through a sustainable increase in Australia's plantation resources, based on a notional target of trebling the area of commercial tree crops by 2020.

The majority of these plantings are hardwood (eucalypt) plantations, mostly established with private capital in managed investment scheme (MIS) plantation projects. The planting rate based on these projects has been highly cyclical given frequent changes in the Government regulatory environment. In the softwood (pine) sector, most planting has been in second rotation forests to replace trees already harvested, with around 11,000 hectares per annum of new pine forests established since 1997.

The increase in private ownership of plantations has increased investment opportunities, and has developed a more competitive industry. Of the total plantation resource, around 5% is now contributed directly by farm foresters, with a further 20% contributed by farm foresters participating with industrial growers through leasehold and joint venture arrangements.

There has been a clear and increasing trend in Australia to privatise many government business-like ventures, and this includes remaining State-owned plantations. The State of Victoria has sold its pine plantation estate of several hundred thousand hectares to Hancock Pty. Ltd., a subsidiary of Hancock USA. Likewise, Tasmania has entered into a 50% joint venture of their pine plantations with the North American investment company GMO Renewable Resources.

The Joint Venture program is now tackling how to encourage investment in agroforestry while also delivering environmental benefits at a farm and regional level. For example, the program is exploring projects that will offset some of the effects of dryland salinity that threatens land in much of the western portion of Australia. Trees need to be planted in specific areas to obtain the

required environmental benefits and the program now recognizes that, from an environmental perspective, not all trees are “good” trees.

The issue is that it is difficult for private investors to capture these environmental, and other public benefits such as biodiversity, as the commercial returns achieved are often insufficient to justify the investment, and hence the trees are not planted. The result of this is that the joint venture approach is currently recognized as being limited in its capacity to leverage investment in low to medium rainfall areas without any additional source of assistance.

As a result, in August, 2004 a Senate committee recommended governments put a brake on forest plantations. The report called for joint venture research to study environmental benefits, especially the impact of plantations on water quality and quantity. The recommendations demand basic changes to the Plantations for Australia: The 2020 Vision initiative

What is required for this mechanism to work?

The range of joint ventures that have been, and are being, undertaken in Australia is vast, and there are many lessons that can be learnt. Clearly, joint ventures have played, and continue to play, a major role in the development of private sector involvement in the forestry industry down under.

However, many of the successful current and past joint venture agreements in Australia have been preceded by some degree of privatization or monetization of the forest resource, in order to gain investor interest. This mechanism, then, is more likely to be successful in countries that already have a large degree of private land ownership, or where government is prepared to privatize a sizeable proportion of their forest resource.

What basic elements are needed?

Plantation development in Australia went through a number of developments prior to joint venture agreements taking off. Therefore, countries wishing to implement this type of mechanism need to focus

Emphasis on financial returns

Discussions with the private sector have shown that participation in afforestation is likely to be improved if investors and landowners are convinced of plantation viability. This might be achieved through a dollar-based benefit-cost analysis that shows the financial returns to be gained from participation in the sector. The Australian government used this approach to prove the viability of their plantations. Such an analysis, therefore, will likely need to be an integral part of any nationally based afforestation fund.

Focus on fast-growing plantations

In Australia, plantation development favoured the establishment of fast-growing species in afforestation projects. Current research by the CFS in Canada indicates that plantations based on clonal trials of fast-growing species are likely to be the only types of plantations that will provide

the returns needed to incent both private landowners and investors to participate. This is likely true for other countries, as the potential for higher returns will reduce the risk for many investors and landowners.

Quantification of market and non-market benefits

As mentioned earlier, the Australian government has recognized that the quantification of non-market benefits, including environmental benefits, is important for promoting afforestation in areas with relatively poor growing conditions. A benefit-cost analysis that includes such benefits is likely to provide justification for a larger government stake in any joint venture agreements in such areas.

Protection of ecosystems, biodiversity or erosion control, for example, provides very real benefits that governments (municipal, regional, provincial or federal), or indeed individuals or conservation organizations, may be willing to invest in. Similarly, the dollar quantification of many secondary market benefits, such as tourism and hunting receipts, may also interest various levels of government or landowners in participating in such a fund.

Regulatory and tax changes

Much of the reform in the Australian forestry sector has included both regulatory and tax reform for investors and landowners. Tenure reform, export market reform and tax system reform are likely to play an important role in attracting investment into plantation.

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