



Indufor ...forest intelligence

Murray Region Forestry Hub

Accessing greenfield plantation land

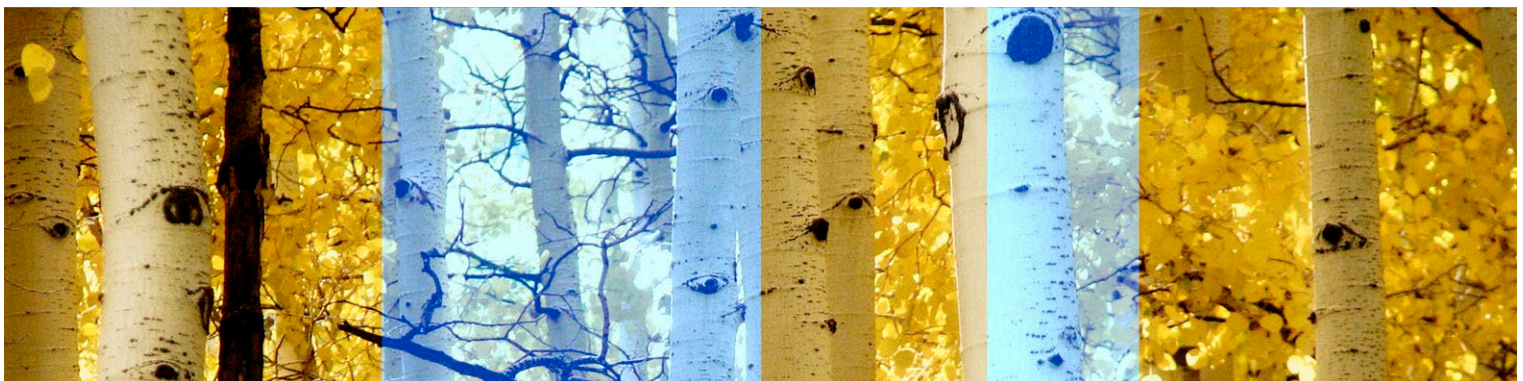
Opportunities and experiences relevant to the NSW South West Slopes / North East Victoria

Final Report

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PREFACE

This report was prepared at the request of the Murray Region Forestry Hub (the Client) by Indufor Asia Pacific (Australia) Pty Ltd. The intended user of this report is the Client. No other third party shall have any right to use or rely upon the report for any purpose.

The project involved data analysis and stakeholder consultation conducted between November and December 2021; and the views expressed in this report reflect outcomes of the review during this period.

This report may only be used for the purpose for which it was prepared, and its use is restricted to consideration of its entire contents. The conclusions presented are subject to the assumptions and limiting conditions noted within.

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EXECUTIVE SUMMARY

The Murray Region Forestry Hub (formerly South West Slopes Forestry Hub) (the 'Hub') encompasses the plantations and processing industry across the south west slopes of New South Wales (NSW) and northeast Victoria. Given the strength of timber markets and existing regional processing capacity, along with the cumulative impacts of fires and limited historical expansion of the estate, the Hub is seeking to develop land access strategies to address the future log supply challenges.

Given the desire to expand the Murray Region plantation estate, the Hub has engaged Indufor Asia Pacific (Australia) Pty Ltd ('Indufor') to provide a review of previous experiences, the lessons learnt, and therefore the opportunities available for accessing new plantation land. This report was prepared through;

- A literature review, and direct engagement with key industry personnel to document what modes of accessing has been tried in the past by the Australian plantation sector, and a brief analysis of why the approach succeed or faltered, failed or just not taken off
- An analysis of strengths and weaknesses of different approaches
- A description of the different modes employed previously
- Suggestions as to the best approach for accessing land in the Murray Region in the future.

Previous plantation expansion in the Murray Region

Various approaches have been used in the Hub region to expand the estate over the last century. The most successful in terms of plantation area was the conversion of native forests, primarily on public land. The acquisition of private cleared land occurred but was contentious particularly when completed by government. The adoption of leasehold and joint venture models have been partially successful, but have required a significant management effort, and have generally resulted only in small, disaggregated areas being established.

Government led native forest conversion contributed to about 60% of the existing estate, primarily on public land. This declined from the mid 1970's as clearing controls relating to native forest were progressively enacted. Significant areas of cleared private land were purchased by the respective NSW and Victorian State governments through the 1980's and 1990's, but declined as community opposition to land use changes increased, and suitable land and capital became constrained.

Various **governments support schemes** for private forests, notably the Farm Forestry Loan Schemes (1964 – 1983) and the National Farm Forestry Program (1996 – 2001) made modest contributions to the plantation estate, with mixed results in terms of species selection and management. Regional Plantation Committees were designed to promote networks, increase the tree growing skill base, initiate demonstration trials, and develop regional strategies. This included Plantations North East Inc (PNE) and Farm Forestry North East (FFORNE). These schemes generally faltered through droughts, lack of market access and declining support.

Managed Investment Schemes (MIS) arose out of tax legislation designed to facilitate private investment in timber plantations. Various parties (including Willmott Forests, Agriwealth and Gunns) were present in developing new long rotation softwood plantations in the Murray Forestry Hub Region during the period 2000 – 2015. The general collapse of the MIS industry from 2007 – 2012 highlighted the fragility of the MIS business model and limited new MIS plantation expansion has occurred since that time.

Apart from the acquisition of the Victorian Plantations Corporation estate by the Hancock Timber Resources Group from the Victorian Government in 1998, **Timber Investment Management Organisations (TIMO's)** acquired other existing private plantations from around 2004, including the Norske Skog and ex-MIS estates. However virtually no greenfield plantations have been developed over this time.

Australian Newsprint Mills (ANM) ran a **softwood joint venture scheme** from 1985 to 1996, primarily as a cropshare arrangement. This was seen as a relatively successful program that established around 1500 hectares (ha). Success factors included the use of lower agricultural productivity land (ex-native forest) and ongoing support from industry. Forests NSW ran a **leasehold** scheme from the late 1990's



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that was partially successful but ultimately encountered significant losses of plantation area associated with drought and fire.

Plantation expansion examples in other regions

Various approaches have been adopted across plantation regions in an effort to expand the plantation estate. The most recent success appears to be freehold purchase by plantation companies, or third party leasehold arrangements typically for short rotation plantation crops, where the charges are based on a 'capacity to pay' principle rather than a market-based lease.

Western Australia primarily through government agencies had a long history of sharefarming arrangements which unfortunately did include some generally poor outcomes due to site and species selection and constrained market access for the log products.

The MIS schemes expanded through both freehold and leasehold models, the latter of which is still a successful means of aggregating good land close to export markets for short rotation crops. Attempts to increase the hardwood sawlog plantation estate in 2002 in western Victoria failed due to a poor economic model and short-term support. In Gippsland the Victorian government is currently seeking to leverage private investment through a \$110 million grant for softwood plantation expansion. The degree to which this program succeeds will become evident over the next few years.

Various schemes have been led by government and the processing industry in the Green Triangle and Tasmania since the 1960's with mixed success. Private Forests Tasmania (PFT) is Australia's only government funded private forest agency, offering provision of on-ground advice, field days, research and forest practices and policy advice to the regulator and government. Current grants to landholders to encourage trees on farms are being offered through PFT.

Recently, in WA, Wespine and Forest Products Commission (FPC) have introduced schemes that are designed to be attractive to private landholders contemplating a move into commercial forestry. These schemes provide a range of services during the establishment and growing phases, along with assured off take agreements with relatively high minimum log prices for timber products generated from the new plantings. This sort of industry support sends a positive message and provides practical assistance to potential growers.

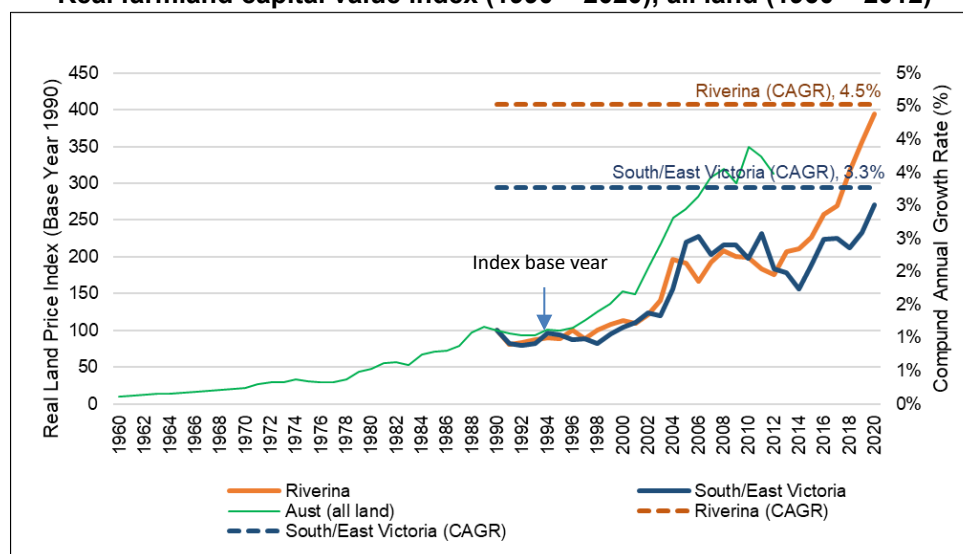
Strengths and weaknesses of different approaches

In a historical context, purchasing freehold land has proven to be a most efficient and simple approach to expanding plantation estates. However continued escalation in real property values since 2010-2012 (see chart) has tested the plantation industry's capacity to obtain adequate capital to source land at scale and to support the investment case for new plantation development. This, and potential social implications of landscape wide changes in land use, have rendered freehold purchase to be a challenging option, whether this is by government or institutional and private investors.



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Real farmland capital value index (1990 – 2020), all land (1960 – 2012)



Source: ABARES (<http://apps.agriculture.gov.au/agsurf/agsurf.asp>), Prosper Australia (<http://www.prosper.org.au>)

Leasehold models have been a proven means of obtaining land for plantation development, however this approach is more likely to be successful for shorter rotation crops such as hardwood (or softwood) pulp.

Joint ventures (shared risk and return) and outgrower models (where the landholder is primarily exposed to the risk and returns of the venture) mitigate many of the contentious social issues but inevitably come at a significant management cost due to their small scale. This land access model would also likely take many years to build momentum in a joint venture program.

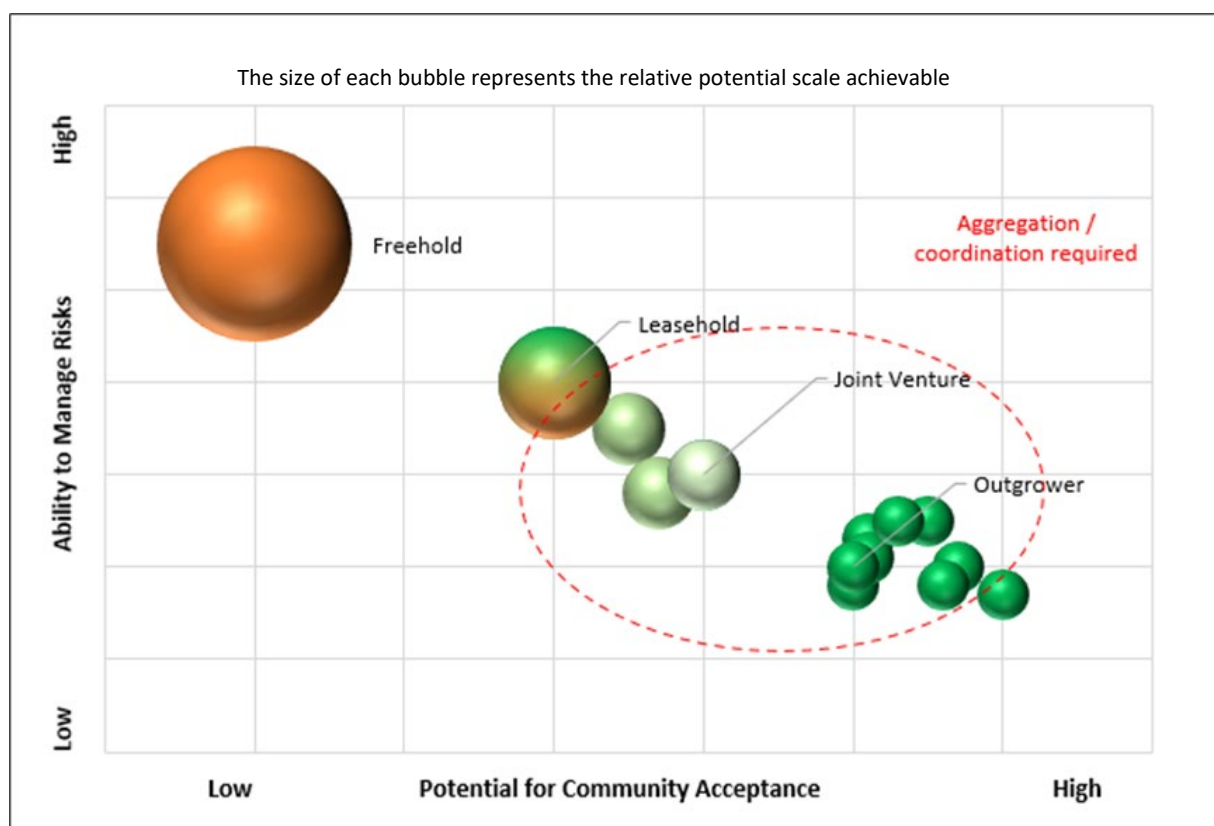
The following diagram presents the relativity for each model in terms of:

- **Scale** achievable through the adoption of different models, and
- Their capacity to **manage risks** associated with financial sustainability, marketing, reversion and fire
- The potential for the model to achieve **community** acceptance.



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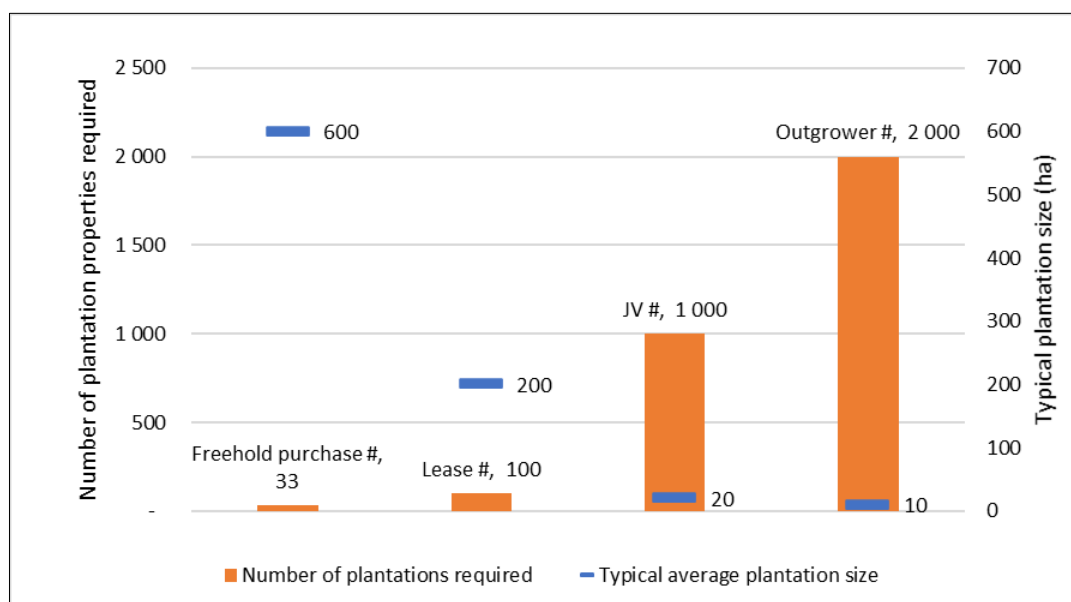
Model scale, risk management and community acceptance



This points to the ability for freehold purchase to achieve scale and manage various risks better than leasehold, joint ventures or outgrower models, however large-scale freehold purchases have a high potential to trigger social concerns without significant interventions to address such concerns. Identifying the means to 'move' the freehold bubble to the right on this chart, is a significant challenge for plantation establishment organisations. However, if national targets such as the billion trees in the National Forest Industry Plan are to be achieved, this option cannot be ignored. Critical in enhancing the attractiveness of this option will be clear communication and leadership articulating the key benefits of the one billion trees outcome for Australian society and particularly regional communities.

The chart below further highlights the issue of achieving scale with the number of potential properties exponentially increasing as joint venture and outgrower models are pursued, with an assumed average property size by mode.

Potential property number and average size by mode to establish 20,000ha



Approaches most applicable to the region

Success factors to a land access program will include a good regional strategic plan: sound marketing, communication and engagement arrangements; the provision of intermediate income (e.g. arising from carbon); a robust investment vehicle (that provides scale, appropriate allocation of risks and returns); clear investment outcomes and fair and transparent commercial arrangements; a good technical package (site, species, regime etc); minimal policy impediments (such as local regulatory constraints); and the development and maintenance of a social licence.

Underlying financial returns must be improved to attract landholders and timberland and tree crop investors. To an extent, the development of the carbon market and potentially significant structural improvements in log prices could provide a reasonable basis although top-up incentives by government and/or industry may still be necessary to at least instigate a program.

Given timberland investors, processors and landholders are all likely to have different objectives, investment timeframes and values, there is no ‘one-size-fits-all’ approach that will work. Therefore, a range of models that can be tailored to maximise the opportunities for land access must be considered. Nevertheless, freehold purchase would be preferred to ensure speed and scale. It simplifies the commercial relationships and the operating model of the plantation enterprise.

An assessment of land capability and appropriate subdivision that optimises the allocation of land for plantations is also a key to mitigating both the capital and social consequences of freehold purchase. This may include land swaps with neighbours to provide win-win outcomes for the forest and agricultural enterprises.

However, to build the estate in a sustainable manner that minimises social risks and transforms land use that genuinely integrates agriculture and forestry will require supplementation from leasehold, joint ventures and outgrower models. Joint venture and outgrower models will be a much slower process that will require aggregation to reduce the costs and risks of small timber lots.

In order to ensure this can be done efficiently, aggregation must be undertaken in a structured manner, preferably through a trusted independent entity, that is ideally landholder driven, but supported by government (state and local), CMA’s, investors and industry. The specific nature of this entity and how it is structured requires further input from the Hub stakeholders.



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Appendix 1: Literature review of selected references relating to land access for plantations

Appendix 2: Summary of personal communications relating to regional experiences



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1. INTRODUCTION

1.1 Report purpose

The Murray Region Forestry Hub (formerly South West Slopes Forestry Hub) (the 'Hub') encompasses the plantations and processing industry across the south west slopes of New South Wales (NSW) and northeast Victoria. Presented with a vibrant industry that is reliant on a plantation base that has declined in size over the last 15 years, the cumulative impacts of fires, and limited accessible land, the Hub is seeking to develop strategies to address the current and future log supply challenge.

The Hub engaged Indufor Asia Pacific (Australia) Pty Ltd (Indufor) to provide a review of previous experiences, the lessons learnt, and therefore the opportunities available for accessing plantation land.

1.2 Scope

Specifically, the scope of Indufor was:

- A summary of what modes of land accessing have been tried in the past by the Australian plantation sector, and a brief analysis of why the approach has either faltered, failed or just not taken off;
- An analysis of the strengths or advantages of the differing modalities and the opportunities to re-configure (mix & match) components that would make the modes more attractive to land owners;
- Describe the types of lease / tenancy; rental & purchase options that have been looked at previously (e.g. farm forestry; lease arrangements; JV's; govt land purchase; MIS schemes);
- Determine approaches that would have the most relevance at a local level; and
- Re-configure opportunities that should be considered for the future.

The review considers documented examples of previous schemes in the region as well as elsewhere in Australia. There has been a plethora of studies and reports commissioned in the last 10 years pertaining to plantation investment models, so the intent of this report is to contextualise that work within the Hub Region, rather than restate what has already been said.

This information has been supplemented by interviews with individuals that have been directly involved in previous schemes in the region, and active operations elsewhere.

1.3 Literature review

A summary of the findings of the literature review are presented in Appendix 1.

The key messages from this review were:

- Previous models of large freehold purchase by the plantation industry are faced with significant challenges due to high capital costs and the potential for social disruption at a local community level; and
- No one model is likely to be effective in all situations – each model will need to be tailored to suit local contextual elements and the objectives and needs of the parties involved.

1.4 Stakeholder consultation

Indufor conducted a series of online interviews with selected industry representatives that are, or have been, involved with plantation development in the Hub Region, particularly where it has



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involved partnering with landholders under leasing or joint venture arrangements. A summary of each interview is tabled in Appendix 2.

The outcomes of this consultation are reflected in the section on past experiences and incorporated into views on recommended approaches for the Hub Region.

However, key messages from these discussions included:

- Partnering with landholders can be complex, time and resource intensive;
- Being partners for extended periods (i.e. 20 to 30 years) is fraught. Personnel change, expectations can change and are often not met, and resentment can build over time without good communication and resolution approaches. Good relationships must be nurtured and sustained;
- A sound underlying investment can help sustain partnership models. Poor or marginal investments are prone to early failure;
- There is a significant level of distrust (manifested by misinformation) of the industry by the broader agricultural community;
- Successful partnership examples are not easy to find. Positive outcomes need to be highlighted and built upon. This will take time; and
- Freehold purchases are going to be very costly to achieve at scale with the current continued price escalation.

This report presents Indufor's review of relevant issues and recommendations for consideration by the Hub and plantation forestry stakeholders.



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2. PREVIOUS PLANTATION EXPANSION IN THE MURRAY FORESTRY HUB REGION

As economic, social and political influences have played out over the last 90 years, plantation development has variously surged and then stagnated to varying degrees. The various phases and different approaches are described in more detail in the following section.

2.1 Government led native forest conversion

Approximately 60% of the plantation estate in the Hub Region¹ was established on converted native forests, the majority of this was on crown land. Large areas of public native forest provided the opportunity to be selective in terms of productivity and terrain. Public land was considered cheap to access with relatively unlimited scope to expand, subject to the availability of funds for the actual plantation development, with conversion costs being the most significant expense.

However public opposition to native forest conversion began to arise from around 1973 with the publication of 'Fight for the Forests' by Routley and Routley².

A review of the Softwood Agreements³ in 1976 advocated that clearing of native forest for softwood plantations should cease. Various state government native vegetation policies further restricted this approach over the following 15 years. NSW introduced State Environmental Planning Policy No. 46 – Protection and Management of Native Vegetation in 1995 which prohibited clearing of native vegetation on most rural land in the State without development consent, replaced by the Native Vegetation Conservation Act in 1997.

A proportion of private forests was also established prior to clearing laws enacted in the 1980's and 1990's.

2.2 Land purchases by government

From the early 1980's, significant areas of cleared private land were purchased by the NSW and Victorian Government. This generally prioritised areas adjacent to established plantations (i.e. west and north of Buccleuch at Tumut, northern Green Hills and Carabost at Tumberumba, and to the south and east of the Shelley plateau and in the Tallangatta Valley in Victoria).

In some cases, this led to community opposition based on various issues including a perceived diminution of communities, landscape changes and the management of weeds, pests and fire.

The Victorian Land Conservation Council had recommended a doubling of the softwood estate in 1981, however opposition, seeded in Gippsland and the Otway's, culminated in community groups becoming increasingly activist with the declaration of the Tallangatta Valley a 'Pine Free Zone' in 1989⁴. The Victorian State Plantations Impact Study (SPIS) was commissioned in 1988, in response to community opposition to the government's program for expanding softwood plantations on farmland in north east Victoria.

The Victorian estate expanded little from this point, with pending privatisation becoming the focus on the Victorian Government's public policy through until sale of the asset to HVP in 1998.

¹ Current FCNSW estate comprises 69% of land classified as ex-native, estimate that private estate expansion post 2000 was predominantly planted on previously cleared land

² John Dargavel (2004) The Fight for the Forests in Retrospect and Prospect, Australasian Journal of Environmental Management, 11:3, 237-244

³ Agreements made under the Softwood Forestry Agreements Acts of 1967, 1972 and 1976, which committed the Commonwealth to provide favourable loans to the States to establish and maintain softwood plantations

⁴ Victorian Plantation Forestry History <https://www.victoriasforestryheritage.org.au/forest-estate/plantation-forests.html>

2.3 Farm Forestry Loans / National Farm Forestry Program

2.3.1 Historic schemes

Coinciding with the Inter-government Softwood Forestry Agreements, the Victorian and NSW Forestry Commissions (forestry arms of the respective State governments) initiated farm forestry loan schemes. A summary and comparison of the two schemes is presented below. Whilst moderately successful in terms of areas established, a consistent theme with these programs was the very high administrative cost to government, which resulted in a waning of support over time.

	Victoria	NSW
Period	1964 - 1983	1966 - 1975
Area established	8 270ha	2 881ha
Loan terms	25 years (12 years 0% interest) \$125 to \$200/ha	40 years (7 - 15 years 0% interest) \$125 to \$200/ha
Land	750+ rainfall	Min 2ha, max 40ha
Liquidity	Loans not transferable	
Species	<i>P.radiata</i> , <i>Poplar spp</i> , <i>Eucalyptus regnans</i>	<i>P.radiata</i> , <i>Poplar spp</i> .
Advice	Advice provided by FC	
Administration	Both schemes are noted as having very high administration costs.	

Source: Tree plantation investment and partnerships in Australia: an analysis of past experiences. Next Generation Project Report 1.

2.3.2 Regional Plantation / Private Forestry Development Committees

Various farm forestry support networks have been established through state and federal government initiatives. Funded by the National Heritage Trust, the national farm forestry program ran from 1996 to 2001, encouraging incorporation of commercial tree growing into farming systems.

A key outcome of the national program was the establishment of a network of regional plantation committees (RPC's) which operated until 2009. RPC's were designed to promote networks, increase the tree growing skill base, initiate demonstration trials, and develop regional strategies. Funding ceased in 2009, although some of the networks continued in various forms.

Plantations North East Inc (PNE) was the Private Forestry Development Committee established in 1996 for north east Victoria⁵. The charter of PNE was broadly to support:

- Planning, infrastructure and industry coordination;
- Development of regional feasibility studies for plantation investment;
- Development of regional plantation and farm forestry strategies to encourage forest-based industries;

⁵ Stewart, S, Race, D, Curtis, A and McDonald S. 2007 Social dimensions of plantation expansion in north east Victoria. A report to Plantations North East Inc. Institute for Land, Water and Society. Charles Sturt University

- Formulating marketing, investment and wood flow plans;
- Facilitating communication between stakeholders; and
- Improving information flows on marketing and management of plantations and private forests.

PNE developed a goal to establish 25,000ha of private softwood plantations largely in the Towong Shire, however less than 1500ha was ultimately established⁶. PNE Inc was ultimately wound up following increases in insurance and fees that couldn't be sustained.

The Farm Forestry North East (FFORNE) Project was a three year Victorian government initiative to initiate the establishment of a farm based hardwood sawlog plantation resource in North East Victoria, and to encourage investors to engage in joint venture farm forestry in the region. The target was to establish 16,000ha to facilitate 800ha to be harvested per year over a 20 year cycle. The millennial drought severely impacted the plantations established and the program also lost momentum as interest and support waned⁷.

2.3.3 Contemporary scheme - Regional Investment Corporation

The Regional Investment Corporation (RIC) is a federal government-backed specialist finance provider for farmers, farm-related small businesses and plantation businesses. A recently released offer has been made in relation to commercial timber plantations. The low cost loan is for eligible commercial growers to develop a plantation or replant bushfire-damaged plantations as a result of the 2019-20 Black Summer Bushfires. The loan is for plantations greater than 30ha, up to an amount of \$2.5 million over 20 years, with interest only payments for years 1 to 13⁸. Importantly, a pre-condition for a RIC loan is the development and approval of a plantation management plan, encompassing good practice interventions for the tree crop establishment and maintenance, through to sales and marketing of plantation products, with the approval arising from a professional forester.

2.4 Other private investment

Various private plantations were developed in northeast Victoria through the 1980's via private investment schemes and some aggregation of plantations developed under farm forestry loans. Plantations North East Inc (the private forestry development committee for the north east region of Victoria) was formed to assist with aggregation of the estate, and in some cases assist with marketing⁹. It is understood that even though this resulted in reasonable cash returns to the private growers over recent years, no growers were willing to replant due to their age profile, other family interests and the long investment cycle.

2.5 MIS

Managed Investment Schemes (MIS) arose out of tax legislation designed to facilitate private investment in timber plantations. Although they have operated in various forms in Australia since the 1930's, the 1998 *Managed Investment Act* created a significant opportunity for investors to gain a full upfront tax deduction for establishment, management and leasing costs for the crop.

The market developed rapidly with numerous firms (Great Southern, Timbercorp, Elders Forestry and Forest Enterprises Australia as leading examples) expanding to accommodate the demand, with a primary focus on short rotation hardwood, with a lower focus on long rotation softwood plantation investments. Willmott Forests, Gunns, and Elders Forestry were all present

⁶ Stewart, S, Race, D , Curtis, A and McDonald S. 2007 Social dimensions of plantation expansion in north east Victoria. A report to Plantations North East Inc. Institute for Land, Water and Society. Charles Sturt University

⁷ Brice Sonogon pers.comm

⁸ Plantation Loan: Commercial Growers - <https://www.ric.gov.au/plantation/commercial-growers>

⁹ Rob Hescocock pers.comm



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in developing long rotation softwood plantations in the Murray Forestry Hub Region during the period 2000 – 2010.

Agriwealth successfully undertook forestry projects in the region from 2004 to 2015, with approximately 5100ha planted predominantly in the Tumbarumba, Shelley and Tallangatta Valley region, with smaller plantations at Bathurst and Braidwood¹⁰. Recent ATO rulings have been received to enable a 2022 project to proceed.

The taxation provisions did not provide for deduction against land purchases, so MIS firms generally financed significant land on their balance sheet through bank debt. Land prices tended to be inflated as demand for MIS products exceeded the supply of suitable land in many locations around the country. This, and the high cost of managing retail investors and financing the business upfront, left MIS schemes highly exposed to the volatile financial markets and the credit squeeze following the global financial crisis (GFC).

A fundamental risk with the MIS industry in terms of establishing plantations is that using tax incentives to attract capital can lead to the tax break becoming the end goal rather than the success of the plantation investment (with some exceptions). This is compounded by long rotation crops where upfront payments must be effectively managed over 25 or more years to ensure adequate capital is available for ongoing maintenance. A tendency for MIS firms was to generally rely on ongoing new investment to ensure adequate funding and cashflow was available to support existing crops. When new investment declined and debt refinancing tightened around the GFC, cash constraints led to a rapid decline in operational viability.

A further note on MIS products is the upfront costs to investors, and the potential impact on federal government tax expenditure. An estimate¹¹ of total expenditure on the Great Southern, Gunns and FEA plantations demonstrated that investors contributed a total of \$2.7 billion for 330,000 hectares established, with a tax expenditure¹² of \$1.1 billion. Tax expenditure was estimated to exceed the tree establishment costs of \$0.7 billion.

A sample of previous softwood schemes include application fees of \$20,000+ per hectare to cover establishment¹³ costs (in 2010). Assuming this was fully tax deductible, the tax expenditures would have exceeded both the market land purchase cost and establishment costs at the time. This suggests that whilst the MIS model was highly effective in attracting capital into the industry, it was potentially very inefficient in directing government expenditures to creating a long term sustainable plantation base.

There were also the social issues associated with large scale freehold purchases because of the rapid expansion of the MIS estate in particular locations around the country. Whilst not directly government funded, there was a common belief that the MIS model distorted the land market in favour of plantation firms. The primary land access mode applied by MIS companies was freehold purchase, which often provided existing landowners with a clear opportunity to transition from a farm enterprise to other life phases including entering retirement. However rapid land use change, community dislocation and the threat of fire, weeds and pests were often the common issues raised in this period.

2.6 Institutional / Timber Investment Management Organisations (TIMO's)

Apart from the acquisition of the Victorian Plantations Corporation estate by the Hancock Timber Resources Group from the Victorian government in 1998, TIMO's acquired other existing private plantations from around 2004, including the Norske Skog estate at Coppabella, and an

¹⁰ <https://www.agriwealth.com.au/projects>

¹¹ Lawrence, J. Submission 194 to Senate Standing Committee on Economic (2015)

¹² A tax expenditure is a tax concession that provides a benefit to a specified activity

¹³ Independent Assessment Wilmott Forests Premium Forestry Blend 2010



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aggregation of smaller private holdings, and the ex-MIS estates of Wilmott Forests, Gunns and Elders. However virtually no greenfield plantations have been developed over this time. Nevertheless, the role of TIMO's has been critical in ensuring effective management of the existing private estates including re-investment in subsequent rotations.

2.7 ANM / Norske Skog Joint Venture program (1985 – 1996)

Australian Newsprint Mills (ANM) embarked on a plantation program in 1985 primarily to secure feedstock for the Albury newsprint mill. However, it was recognised that direct pulpwood crops were not likely to be profitable so a multi-thin regime was instituted to generate pulpwood at thinning and sawlogs. The program acquired freehold land at Coppabella, Horse Creek and Ferndale, but looked to supplement the estate with private joint ventures.

This was initially very successful, with numerous landholders offering land that was often still covered in native forest, with the attraction of generating a return from otherwise unproductive land. The joint venture program was based on a crop share arrangement, with pre-agreed returns based on the parties' relative inputs over the course of the rotation. This varied from 15% to 50% depending on whether just land, or other contributions were made by the landholder.

Approximately 1500ha of joint ventures were established across 20 properties, with block sizes ranging from 6ha to 200ha. ANM was subsequently sold to Fletcher Challenge, then to Norske Skog in April 2000. The new owners rationalised the plantation program, ultimately selling the estate to institutional investors in 2005.

A summary of the lessons from the ANM JV scheme is provided below, taking the perspectives of both the landowner and the tree crop investor.

Positives:

- More likely to be successful on land that is not otherwise highly valued by the agricultural enterprise
- Clear program objective – to generate pulpwood but adopted a sawlog regime to maximise returns
- Offtake agreement in place
- Dedicated and long serving joint venture manager – relationships were established and curated over a long timeframe.

Negatives:

- Struggled to find suitable land after vegetation clearing controls were enacted
- Some sites established were on marginal land, not always easy to access, particularly for wet weather access
- A surplus of regional pulpwood coincided with thinning falling due
- High management costs that were not always sustained leading to a sense of neglect and frustration (by some parties).

Case Study – Tom and Vanessa Ranken (Tumbarumba)

Established two JV plantations with ANM in 1985 and 1994 totalling 89ha. The Ranken's were running a pine nursery at the time so had an interest in the trees and provided advanced genetic material through contacts at FRI and CSIRO. The JV agreement was developed collaboratively – a fixed % based on estimated inputs, with a final share of around 50%. The Agreement survived four significant changes of the counterparty. The Ranken's were positive about each of the JV partners they dealt with over the 30 years.

The plantation was established on ex-native forest, was well maintained, thinned on time, and had good access via adjacent forest roads. Fire protection was aided by its location adjacent to existing plantations. Windthrow salvage was coordinated with the JV partner for 7ha. This would not have happened without the JV due to competing demands on harvest crews.

Towards the end of the rotation the plantation land was sold to another forestry entity, whilst the Ranken's retained the right to harvest the original crop. This avoided any reversion or reestablishment costs.

The JV was successful because:

- There was a strong JV partnership, sustained over 30 years across multiple JV partners (assisted by a dedicated manager retained through several ownership changes)
- Largely located on ex-native forest – land otherwise considered unproductive at the time of establishment
- Well located and productive plantation, well maintained, with good market access
- The landholder had a strong technical understanding of the project, and were supported by JV partners throughout
- They believe that through having a large company JV partner they gained leverage with harvesting contractors, logistics and log purchasers
- Reasonable scale (89ha)
- Attractive commercial arrangements at end of rotation (i.e. sale to neighbouring forestry landholder).

2.8 State Forests (Forests NSW, Forestry Corporation NSW) Softwood Joint Venture program (primarily leasehold)

Commencing in the late 1990's, the joint venture program established around 3000ha predominantly in the Tumut/Tumbarumba area. The objective of the program was to supplement the plantation expansion program specified in the Visy Agreement to plant 20,000ha. Poor initial take up necessitated some planting being undertaken at Bathurst, and also west of the Hume Hwy where around 250ha of *P. pinaster* plots were established.

The majority of the program involved the payment of annuities, with landholders allocated a small portion (2.5%) of the residual crop value. The lease fee was based on 5% of the land value (as assessed by the government valuer). Lease fees were indexed at CPI. Term was a minimum of 25 years and up to 30 years. Condition of the land at handback included harvest slash and stumps in situ.

Timber rights were retained by State Forests. The agreements were established by the State Forests Joint Venture Manager, and responsibility handed over to the regional staff to manage operationally. This led to some breakdown in the relationships whereby some landholders perceived that they were not treated well over the long term.



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The majority of the JV's established at Tumberumba were severely damaged in the Jananee fire in 2014. From a technical perspective the establishment and maintenance was undertaken broadly as part of the State Forest program. However, in order to access sufficient land to meet the State Forests plantation area target, the rainfall limits of the region were pushed, resulting in a reduction in productivity, significant drought impact and ultimately exposure to increased fire risk.

A summary of the lessons from the State Forest JV scheme is provided below, taking the perspectives of both the land owner and the tree crop investor.

Positives:

- Strong strategic imperative
- Good alignment technically with existing plantation program
- Relatively simple commercial arrangement with a standard indexed lease fee

Negatives:

- Sites were often marginal
- Relationships were not always effectively managed and sustained
- Landholder was entitled to only a fraction of the returns at harvest, and therefore declining support for attaining the final crop outcomes
- Lease fees were based on a rural land market valuation and may not have reflected the crop's capacity to pay in respect to the wood processing locations. Successful leasehold models in WA are based on a capacity to pay that recognises productive blocks close to markets can provide a competitive advantage to forestry over other land uses.

2.9 Summary

Various approaches have been used in the Hub region to expand the estate over the last century. The most successful in terms of area was the conversion of native forests, primarily on public land. The acquisition of private cleared land, particularly by government has been contentious. The adoption of leasehold and joint venture models have been partially successful, but have required a significant management effort, and have generally resulted only in small, disaggregated areas being established.





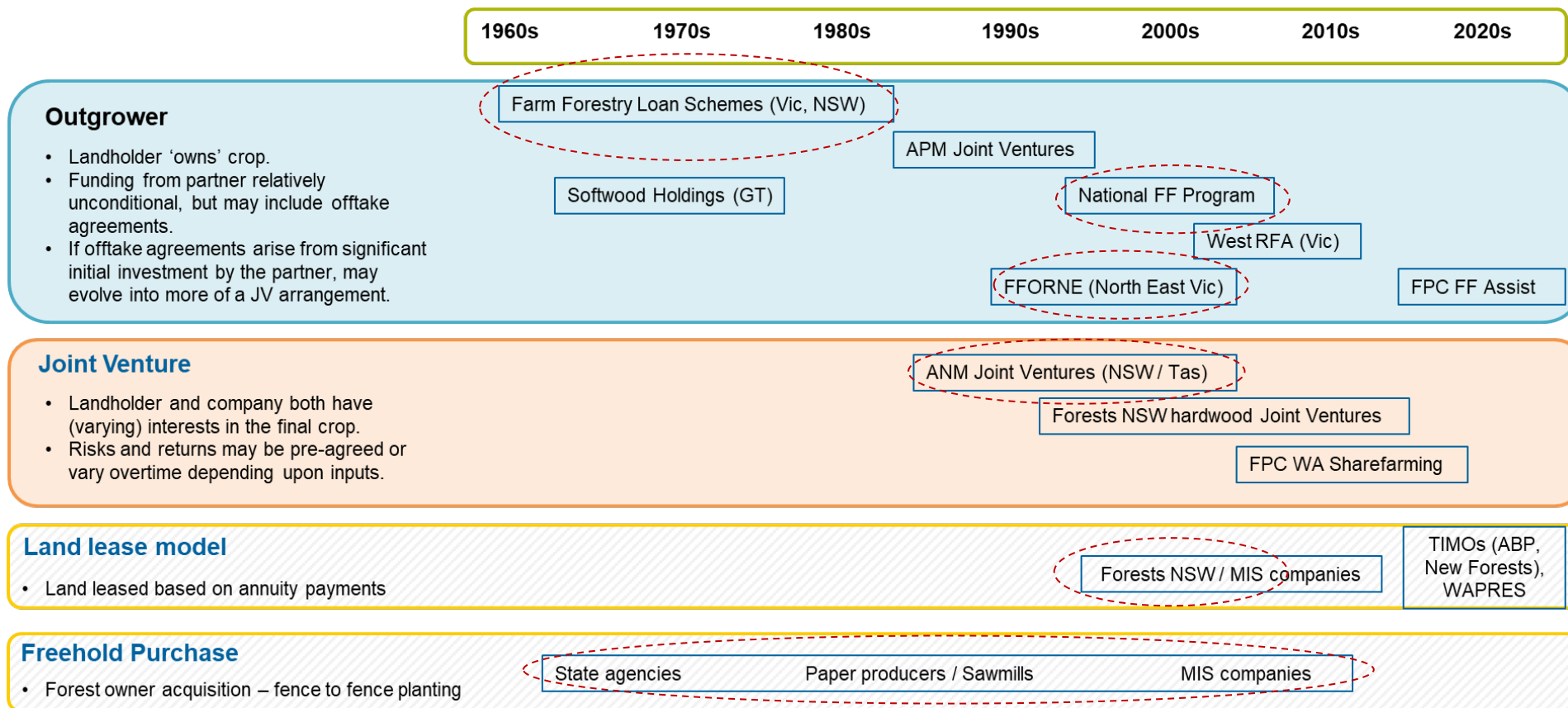
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Figure 2-1 below sets out a sample of the programs undertaken under the various land access models in the study region and interstate (which are further described in Section 4).



Indicates examples applicable to Hub Region

Figure 2-1: Sample of different models of land access in Murray Forestry Hub Region and elsewhere



3. PLANTATION EXPANSION EXAMPLES IN OTHER REGIONS

The history of plantation development and the application of different models across Australia has been well documented elsewhere. This section does not attempt to comprehensively describe that history but identifies some key examples that have been explored through contact with individuals involved and available literature.

3.1 Western Australia

Since the 1990s, there was a substantial investment through a range of share-farm arrangements between private landowners and the State Government. These arrangements commonly involved sharing of the risk and return between the parties involved, but with the shares being agreed at the time of establishment and potentially varying by agreement. Typically, tree crop establishment costs were borne largely by the State, the landowner contributed through the provision of land access, and the parties planned to share the net harvest returns (i.e. prices paid for the logs after any harvesting and haulage costs have been accounted for). The tree crop owner may also have paid an annuity to the landowner for the right to occupy the land. These share-farm plantings contributed over 28 000ha of softwood plantations to the total estate in WA¹⁴.

The results of these share-farm arrangements have been varied, with some of these producing a viable tree crop and the landholder receiving an appropriate return for the use of the land. However, many agreements have resulted in plantations with little realisable value as well as impacting on land use options for the landowners where there is a cost of removing the existing tree crop. This group of agreements were often located on marginal land, distant from existing markets. These legacy influences current stakeholder perspectives on share-farm models. In many cases, little of these share farm plantings are expected to be replanted for a future crop.

The rapid expansion of the MIS plantations in WA in the late 1990's and 2000's included freehold purchase and substantial areas of leasehold. Whilst some of these either failed or reverted to agriculture following the first harvest, the MIS plantings is still a significant proportion of the existing hardwood plantation estate. For example, West Australian Plantation Resources (WAPRES) have maintained an estate of around 30 000ha with 80% planted on leasehold.

Whilst initially offered as leases extending over two rotations, these are now limited to a term of 10 to 12 years. Lease fees are negotiated at the end of each rotation, generally based on the company's estimate of the crop's capacity to pay, which is a function of productivity and distance from the port.

The companies involved in these arrangements see good relationships with landholders as a competitive advantage, and acquired many leases following collapse of MIS arising from this approach. They also note the importance of allies in the sector (real estate agents, agronomists and advisors) to ensure the opportunities from timber plantations are maximised¹⁵.

The SW Timber Hub led by Wespine are currently developing three models to fully test market for private plantations. The success of this program will become evident over the coming years.

- DIY option – min size 10 to 15ha. Landholder funds establishment and wears risks, however they are guaranteed an offtake agreement and offered management support.
- Partnership JV – Wespine fund all forestry costs, landholder contributes land and operational costs – fixed crop share arrangement in place.

¹⁴ ABARES 2016, Australia's plantation log supply 2015–2059.

¹⁵ Grant Johnson (WAPRES) pers comm



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- Aggregation model – targeted Shire of Boyup Brook with larger land holders (100ha min). This would be similar to the DIY option but at a larger scale.

3.2 Western Victoria

In response to land tenure changes in 2002, the West RFA Sawlog Farming Project was initiated to promote the development of a hardwood sawlog resource on cleared private land. The program was designed through a steering committee comprised of hardwood timber processors, local and state government, the Catchment Management Authority (CMA), farm forestry networks and plantation companies¹⁶. Subsidies of \$100 to \$700 per hectare at the time of establishment were offered based on the contribution to public good (environmental benefits).

As the uptake of this program was limited, this could be attributed to the incentives being inadequate, but crucially with funding for 3 years only, this demonstrates the risk of ventures that have do not have an ongoing commitment of financial, technical and commercial support. The program also suggests that despite a comprehensive design process, plantations must be underpinned by adequate economic returns and a commitment to long term development.

3.3 Gippsland

The Victorian government committed \$110 million to plantation development in Gippsland as part of the Victorian Forestry Plan in 2019. The program is seeking to leverage private investment¹⁷ in industrial scale plantation development of at least 15 000ha, for the supply of hardwood and softwood pulp and sawlogs. The program has sought interest from the market through a competitive process that is expected to be finalised through 2022. The program is to be complimented by a farm forestry program to enable landholders to participate in plantation development with design still to be finalised.

3.4 Green Triangle

Various land access arrangements have been implemented in the Green Triangle with mixed success. Softwood Holdings established joint ventures in the late 1960's, with offtake in terms expressed as 'mutually agreeable at the government royalty rate'. Advice and support from Softwood Holdings included assistance with insurance and the provision of wholesale rates for seedlings¹⁸. The plantation ranged from 4 to 180ha with around 5000ha ultimately planted.

Kimberley Clark established 4000ha across 38 properties from 1989 of short rotation hardwood JV's Purchasing freehold¹⁹. Plantation establishment and management was contracted to the then Department of Primary Industries.

3.5 Tasmania

Encouraging tree growing and management of existing forests on private land has been the core function of Private Forests Tasmania (PFT). PFT is a statutory authority established in 1994 under the *Private Forests Act 1994* to promote, foster and assist the private forestry sector in Tasmania. It is Australia's only government-funded private forestry agency. PFT is governed

¹⁶ Kevin, T. 2006. Multi-benefits of small-scale farm forestry in south-western Victoria, Australia and factors influencing farm forestry development. In: Wall, S. (Ed) Small-scale Forestry and Rural Development: The intersection of ecosystems, economics and society; Proceedings from the Small-scale Forestry and Rural Development Conference held in Galway, Ireland, 18 – 23 June 2006

¹⁷ EOI Guidelines - <https://www.tenders.vic.gov.au/secure/tender/downloadSpecDocs?tenderId=229338>

¹⁸ Jenkin B. 2018. Benchmarking analysis: Part 1 Australia's history of plantation development, policy and incentives. Next Generation Investment Research Project

¹⁹ Curtis, A and Race, D. 1998 Links between Farm Forestry Growers and the Wood Processing Industry. RIRDC



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by a board appointed based on their industry knowledge; and eight employees across three locations.

The private forest estate covers around 15% of Tasmania's land mass, comprising over 240 000 ha of plantations and native forests of 858 000 ha²⁰. PFT's focus is on encouraging the sustainable use of trees and forests for commercial wood production, farm productivity and environmental benefits. PFT supports growers through the provision of on-ground advice, field days, research and forest practices and policy advice to the regulator and government.

However despite the active presence of PFT, the non-industrial private plantation resource has been contracting since 2008. There are numerous factors contributing to changes in the private forest estate. PFT has commenced its Private Forest Development Program in response to a lack of economic data on benefits of planting trees on farms, with a view to influencing growth of the private plantation estate in the post MIS environment.

Current programs include a Trees on Farms 2021 Grant Program, targeting plantings greater than 20ha. Total funds available for 2021 are \$600,000.

3.6 Summary

Again, various approaches have been adopted across most regions in an effort to expand the plantation estate. The most recent success appears to be leasehold arrangements for short rotation crops, where the fees are based on a 'capacity to pay' principle rather than a market-based lease.



²⁰ PFT Annual Report 2015/16:

http://www.pft.tas.gov.au/_data/assets/pdf_file/0011/141032/Annual_Report_2015-16.pdf

4. STRENGTHS AND WEAKNESSES OF DIFFERENT APPROACHES

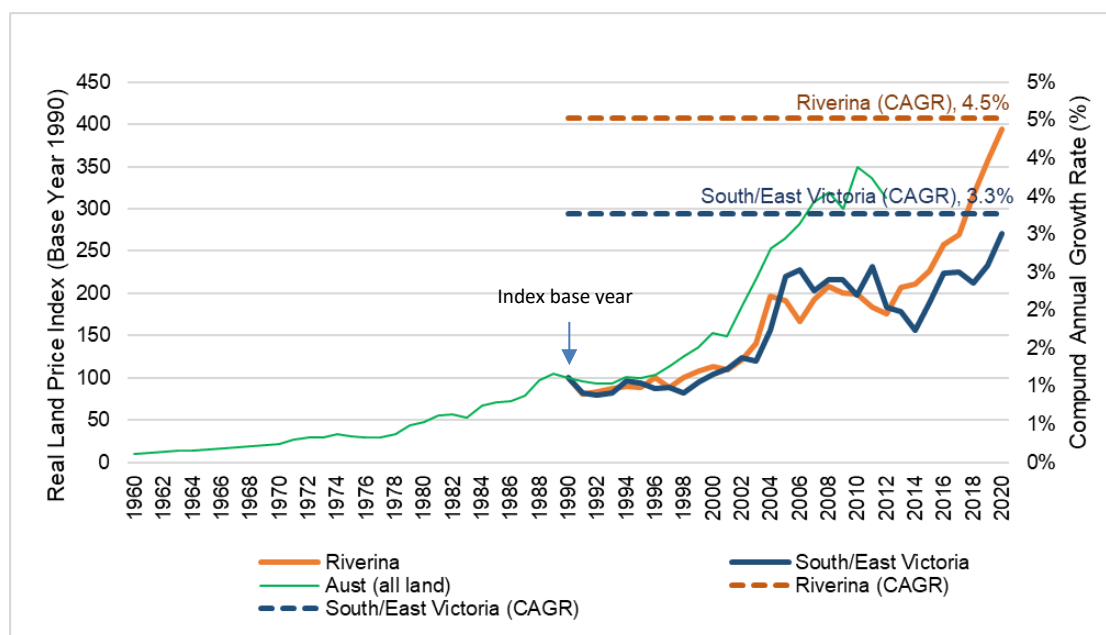
4.1 Land purchase

Purchasing freehold land has proven to be the most efficient and simple approach to expanding plantation estates. This ensures that the interests of the landholder and the tree grower are aligned. Land can be acquired through simple market mechanisms, and providing there is sufficient liquidity in the market, the scale of purchases is only constrained by the capital available.

However, as Figure 4-1 demonstrates, continued escalation in real property values has tested the plantation industry's capacity to obtain adequate capital to source land at scale and support the investment thesis. Whilst land was historically around 50% of the initial plantation development cost at the start of this period, typically land costs would now be in excess of 80% of the capital required. In this time period other costs have largely been kept in line with CPI, whilst log prices have actually declined in real terms. All of which points to land being the fundamental impediment in achieving suitable economic returns required for the capital invested in the land and tree crop. Further challenging this approach is how land is treated in the investment, and whether land returns can be reasonably realised given the land will likely remain under a tree crop over an extended period.

This, and potential social implications of landscape changes in land use, have rendered freehold purchase to be a less attractive option as discussed below.

Figure 4-1: Real farmland capital value index (1990 – 2020), all land (1960 – 2012)



Source: ABARES (<http://apps.agriculture.gov.au/agsurf/agsurf.asp>).

Prosper Australia (<http://www.prosper.org.au>)

4.1.1 Government land purchase

Given the long term nature of timber plantation investments, governments are well placed to access capital and to withstand the various risks associated with plantation losses and uncertain markets. The ability for large plantation estates to be developed on public land and to provide the core resource for many of the large industry hubs is evident throughout NSW and other jurisdictions.



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However, it is also clear that all states are confronted with the same problem in terms of high land cost and community concerns around the government being directly involved in large scale conversion of agricultural land to forests. Typical issues include perceived loss of family farm enterprises and associated local services, the management of weeds, pests and fire, and the impact on local roads. When government is considered the primary agent in triggering these concerns, the political and social fallout can be significant.

Despite the numerous challenges confronting broad-acre plantation establishment, government involvement in land purchase must be considered as a viable option for plantation expansion. It is also worth noting that the current concerns over land prices are not unique to the forestry sector, with all potential primary industries facing a similar challenge. A key challenge is ensuring the option is designed and implemented with clear communication as to the intent, and then critical leadership to demonstrate community and societal benefits that arise from an expanded plantation estate.

4.1.2 Institutional and other private investors land purchase

Removing government from directly buying freehold land can reduce the political consequences of plantation expansion. However, where private investors undertake land purchases through a subsidy or incentive by government, either real or perceived, this can also lead to community disquiet and risk of political fallout.

The MIS schemes from the 1990's and 2000's are a clear case in point where significant areas were acquired, but due to a number of perverse characteristics triggered significant community backlash. These included a surge in capital that had to be spent by critical deadlines, MIS firms competing for a limited land base, and a reasonably irrational approach to assessing real investment returns (due to the distortions created by tax breaks). The concerns around the rate of change in land use, the spike in land prices and the disruption to local communities were all heavily compounded by the collapse of the schemes, examples of neglected crops, and in some cases a lack of subsequent economic activity generated by the plantations.

The pros and cons of freehold purchase are summarised in Table 4-1.

4.2 Leasehold

Leasehold models have been a proven means of obtaining land for plantation development, however this approach is more likely to be successful for short rotation crops such as hardwood pulp. Landholders are more likely to offer up areas of productive land if optionality (i.e. the ability to use the land for other purposes) is only removed for a relatively short period of time (say 10 to 12 years). Long rotation leasehold is bound to encounter issues such as changing land values, expectations and needs of the landholder, and require a sustained cash contribution from the tree crop owner.

Due to the legacy of failed MIS schemes, whereby landholders were left with failed or immature crops on their land, leases for forestry purposes may also have to overcome negative perceptions in many plantation regions. In terms of the Murray Forestry Hub Region, this may not be so evident with the FCNSW JV's being the only attempt at leasehold land on any significant scale. Although these were burnt mid-rotation, it is understood landholders were not disadvantaged from a commercial standpoint due to the strong agreement and government counterparty.

The pros and cons of leasehold are summarised in Table 4-1.

4.3 Joint Venture - Cropshare

Cropshare joint ventures are designed in terms of ensuring the parties contribute in their respective areas of expertise and the social issues are managed (primarily due to smaller scale and landowner involvement). Providing they are structured well, they also ensure that each party has a significant stake in the value of the final crop which will hopefully ensure management objectives are reasonably aligned.

The risks clearly are in the complexity involved in defining how to align interests and risks to attaining the expected returns to the investor and the land owner, agreeing and monitoring the respective inputs, and maintaining strong working relationships particularly over 25 to 30 years. The Forests NSW hardwood JV's on the NSW north coast, created over 240 individual agreements that had various combinations of fixed and 'sliding' share arrangements. All required periodic inspections and reports to be submitted. The administration of the agreements demanded ongoing support from technical and legal experts.

The risk that this effort is unsustainable are compounded by an estate that is in the development phase with no ongoing revenue. Cashflow constraints are inevitable without ongoing support.

4.4 Joint Venture – Market

Market joint ventures can be relatively simple in terms of the log buyer making some sort of contribution (for example an upfront grant) in exchange for the rights to purchase the timber from thinnings or crop maturity. The cost, risk and ownership of the crop is retained by the landholder, whilst the log buyer commits to a set of conditions to provide market security.

Market joint ventures have failed in some regions when there is no guaranteed offtake, or there is too much discretion retained by the log buyer in terms of timing, volume or price.

4.5 Outgrower

Under this model all the risk and returns lie with the landholder. The clear advantages lie in that all the management decisions are made by a single entity, with the landholder fully responsible for the cost of establishment and maintenance of the crop.

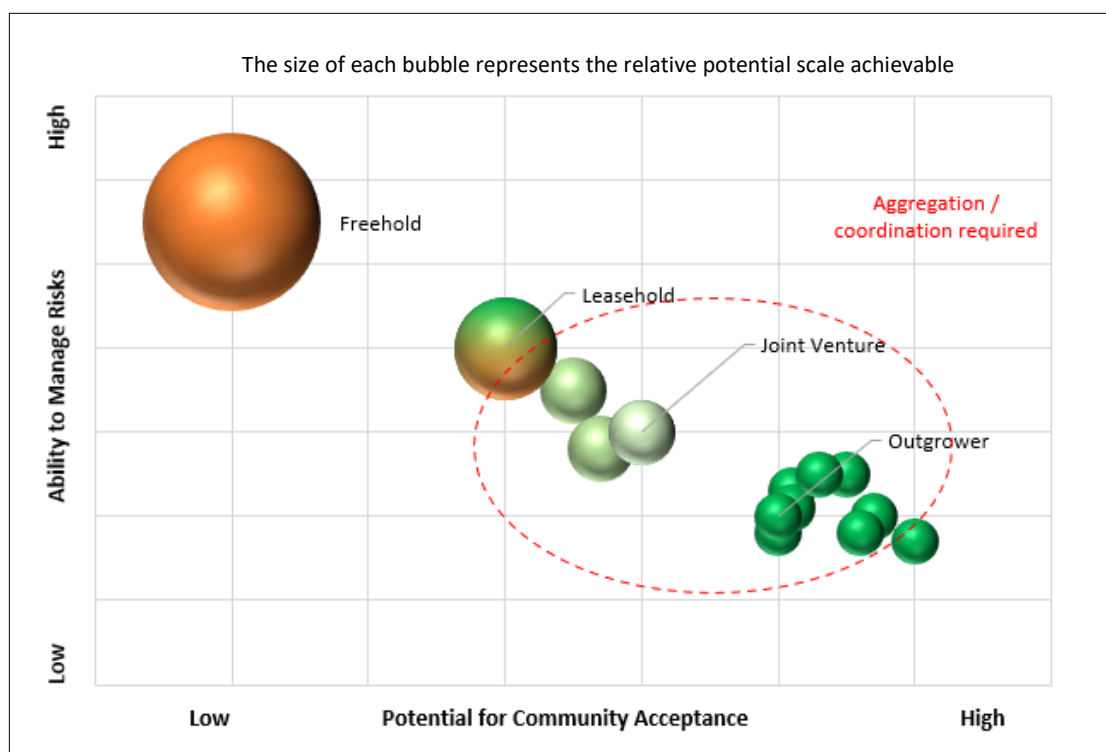
Risks lie in that there maybe insufficient capital available for establishment to develop a plantation at a reasonable a scale. There are also risks that the market may not be available at the volume or price expected and it also relies on the landholder having access to strong technical advice, with a good knowledge of expected costs and revenues.

4.6 Summary

The approaches most suitable to the Murray Forestry Hub Region are further discussed in Section 5. The following diagram Figure 4-2 presents the relativity for each model in terms of:

- **Scale** achievable through the adoption of different models, and
- Their capacity to **manage risks** associated with financial sustainability, marketing, reversion and fire
- The potential for the model to achieve **community** acceptance.

Figure 4-2: Model scale, risk management and community acceptance



This points to the ability for freehold purchase to achieve scale and manage various risks better than leasehold, joint ventures or outgrower models, however large-scale freehold purchases risk triggering social concerns. Identifying the means to ‘move’ the freehold bubble to the right needs to be addressed if national targets, such as the *billion trees*, in the *National Forest Industry Plan* are to be achieved. Critical in enhancing the attractiveness of this option will be clear communication and leadership articulating the key benefits of the one billion trees outcome for Australian society and particularly regional communities.

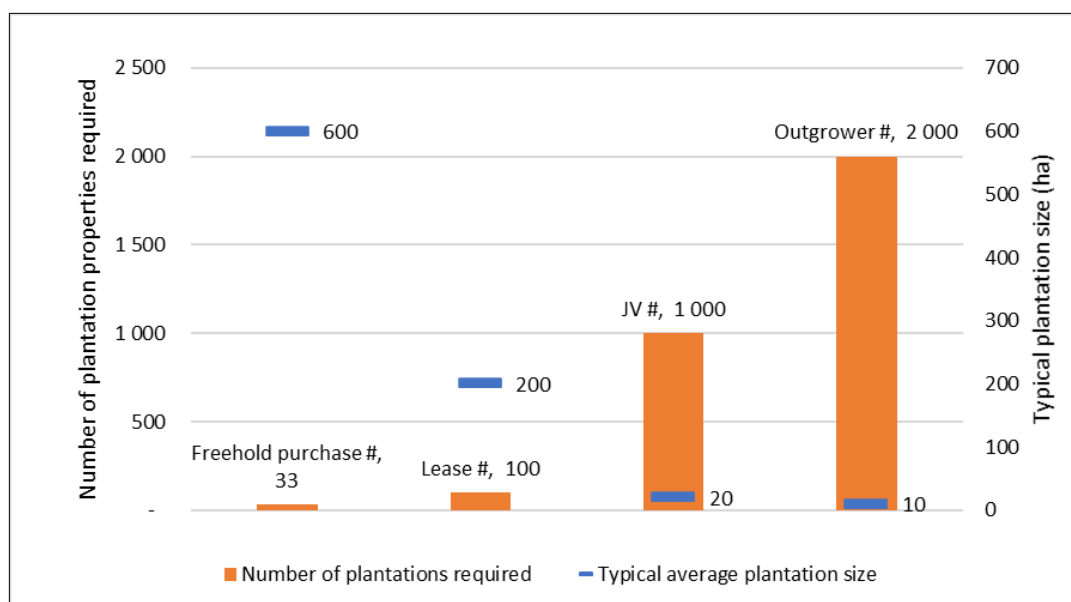
The issue of property size, number and aggregation is further demonstrated below. As an example, if 20 000ha were to be planted in the region, around 33 properties might required to be purchased as freehold, assuming an average size of 600ha. Leases are likely to be smaller, given landholders preference for allocating a portion of their land to another enterprise.

For joint ventures and outgrower models, where capital is required and it is more likely to be a niche enterprise for a landholder, anywhere between 1000 and 2000 properties could be involved to achieve the same 20 000ha estate.



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Figure 4-3: Potential property number and average size by mode to establish 20,000ha



A key issue relates to the number of parties required to be involved in plantation development to make a material impact on supply if other approaches are adopted – particularly joint venture and outgrower models. Coordination and aggregation is required to ensure that the most efficient means possible of contract development, plantation establishment, protection, carbon and timber marketing and harvesting and transport can be adopted.

The numerous land access models offer different advantages and bring various levels and types of risks. These are summarised below in Table 4-1.



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Ranks highly / positive
Ranks mid-range
Ranks poorly / negative

Table 4-1: Summary of land access models

Element \ Model	Freehold purchase Govt / private	Leasehold (annuity)	Joint venture		Outgrower (large scale farm forestry)
			Cropshare	Market JV (offtake)	
Landholder input	None	Low	Moderate	Moderate - High	High
Potential scale achieved	High. Large purchases can be prioritised and fence to fence planting.	Mod. Some success previously. May be larger consolidated areas than JV, less than freehold.	Low-Mod. Successful only at small scale. Likely to be smaller, lower productivity parcels	Low. Few precedents set at large scale. Likely to be smaller, lower productivity parcels, with higher upfront costs from landowner	Low. Few examples of any projects at scale. Likely to be smaller, lower productivity parcels
Typical size (ha)	100 – 2000	50 - 500	10 -100	10 - 50	10 - 100
Plantation # per 10,000ha	5 to 100	20 to 200	100 to 1000	200 to 1000	100 to 1000
Technical	Company has full control of technical aspects. Some aspects of land management may not be core business	Company has full control of technical aspects. Allocates plantation and land management roles to parties with expertise	Company brings technical strength. Company may lose interest / oversight over time. Potential conflict over inputs.	Company advice, landholder invested in success, undertakes work. Company may lose oversight over time. Offtake agreement needs to be equitable. Prices must be transparent.	Landholder undertakes work, must have strong technical support on an ongoing basis. Species / regime must be aligned to potential markets.
Financial model	Simplified – funding from company or external entity. High capital cost for company. Other land uses not easily integrated	Relatively simple commercial relationship. Reduces capital required. Lease fees require ongoing availability of funds	Company usually bears establishment costs but no capital for land required. Can be complicated and lead to tension over accounting for inputs.	Reduces company capital required, landholder bears upfront costs. An initial contribution by company can be modest. Simplified with landholder contribution high.	Simple. All up and downsides available for landholder. Risk rests with landholder – may be too much for small landholders. Market access may be uncertain.
Financial expectations	Would incorporate land appreciation and crop returns	Landholder's expected return on land must not exceed crop's capacity to pay	'In-kind' costs must be pre-agreed. Landholders expected return on land input must reflect crop's capacity to pay	Landholder's expectations can be managed internally as no other party involved. Would presumably consider overall returns relative to alternative land use	
Social	General community concerns regarding competition for land, forestry, weeds, pests, roads, fire	Retains existing landholders in model. Requires long term relationship, probability of success partly related to length of lease	Landholders with significant stake in plantation - can be treated as alternative crop. Poor history of failed JV's must be overcome in many regions	Reduced impact with landholders exercising control and decision making. Company (log purchaser) must not have too much discretion about timing and quantity.	Assuming planting undertaken by existing landholders, social issues may be mitigated, particularly if fence-fence planting is avoided.
Risk management	Fire risks may be addressed through integration of existing protection mechanisms (mitigation, suppression, insurance, salvage). Reversion risks for freehold are low with the company generally intent on managing the land in perpetuity for timber production. Leasehold would be held for at least a full rotation.		Would rely on JV partner for protection, whose commitment may be less than plantations fully owned. Reversion risks low for duration of agreement.	Likely to be left to landholders' ability to harness local resources and obtain insurance. Reversion risks moderate depending on offtake agreement and landholder intent.	Would rely on landholders' ability to coordinate mitigation and suppression activities. Insurance probably difficult to obtain. Reversion risks high if crop expectations not met.

5. APPROACHES MOST APPLICABLE TO THE REGION

Whilst the issues associated with finding suitable land for plantation expansion are common across many of the Australian plantation hubs, the Murray Forestry Hub Region has a key advantage in that it includes a vibrant and broad processing industry that is clearly seeking additional fibre in the long term. While regions that are highly exposed to the export market are vulnerable to changes in global demand, the sophisticated and integrated industry in the Murray Forestry Hub Region should be able to offer a degree of relative certainty to investors about the long-term market prospects for softwood logs offtake.

To attract landholders and investors, the underlying returns must be significantly higher than those previously achieved, or modelled, as is self-evident by the lack of interest in new plantations. The developing carbon market and what appears to be significant positive adjustments to timber and log prices over the past 2 years point to inherent improvements to the investment thesis. Returns may require additional top-up funding from government or industry to ensure sufficient interest is generated to build momentum in plantation development.

This section considers the regional context, the advantages and the risks that it offers, and suggests some land access models that are most likely to be successful.

5.1 Barriers to freehold purchase

Where land is acquired by, or on behalf of the investor, there are two primary potential negative consequences.

(i) Capital costs

As land cost has effectively doubled in many suitable areas over the last 7 years (see Figure 4-1), investment returns where the tree crop is required to pay actual or notional rent on the land as a core part of the land owner returns, this land use cost renders most tree crop investment scenarios uneconomic. It is also worth noting that primary industries are all confronted with this issue, particularly with the price volatility associated with agricultural commodities.

Land costs incurred by the tree crop can be ameliorated through grants or incentives to offset purchase costs and incorporation of land appreciation into investment models, or through the acquisition by government through recognition of the public good associated with plantation development. Both these approaches would need to be established with care to mitigate negative social outcomes.

(ii) Social licence

Government or corporate land purchases, particularly those that involve a significant land use change could inevitably trigger negative community responses. This has been exacerbated by the Black Summer bushfires in the Hub Region.

Social issues may be mitigated to some extent through:

- dispersal of the land acquired across the landscape to dilute the negative consequences in any given locality;
- an active and sustained campaign to improve the perception of plantation development; and
- demonstrating a clear link between community resilience and economic positives arising from the plantation supply chains.

It is likely that strategic freehold purchases would form a necessary part of the plantation expansion program in the Region. This may be where specific parcels are located in areas that complement and enhance the existing estate (for improving road access for example). However, large scale freehold purchases in the Region will require a resolute effort to mitigate negative consequences from a political and social perspective.



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An assessment of land capability and appropriate subdivision that optimises the allocation of land for plantations is also a key to mitigating both the capital and social consequences of freehold purchase. This involves ensuring prime agricultural land is retained for that purpose whilst sites more suited to tree growing are identified accordingly. This may include land swaps with neighbours to provide win-win outcomes for the forest and agricultural enterprises.



5.2 Success factors for Murray Forestry Region partnership models

The Next Generation Plantation Investment reports highlight a series of success factors for partnership models that will ensure that plantation models have the best chance of success within a given setting. These are tabled below. Note that these would be applicable in any model other than where land is acquired through freehold purchase by the timber investor.



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Table 5-1: Murray Forestry Region success factors

Factor	Description / Regional implication
1. Planning – strategic / regional	Must be detailed and fit within a broader regional strategy
	<i>The Murray Forestry Hub strategy of broadly creating more fibre for the softwood processing industry is clear. Each plantation project must define a specific objective to ensure management actions are aligned</i>
2. Marketing / offtake arrangements	An agreement that balances the interests of the parties, offers a degree of certainty related to timing, volume and price
	<i>Regional processors / log buyers need to be able to offer a package that secures the market at a known and acceptable price. A regional market report maybe a tool to improve the transparency of log prices.</i>
3. Other income	Intermediate sources of revenue to ensure ongoing sustainability and improve overall returns – grazing, carbon etc.
	<i>Carbon presents the primary opportunity to generate early income in lieu of other incentives (pre-payments and grants). This is dependent on scale given the compliance and administrative costs of the program.</i>
4. Investment vehicle: the overall commercial structure that ensures:	- sufficient scale and funding – to satisfy a market, capture efficiencies, ensure momentum and sustainability
	- an appropriate allocation of risks and returns
	- clear and informed investment outcomes
	- commercial arrangements fair, transparent and sustainable
	<i>Scale is relevant at a project and a program level. Insufficient project scale can be mitigated by aggregation – this requires appropriate agents in place and comes at a significant cost. Risk allocation should reflect which party is best able to manage and mitigate the specific risks, and treat the other party reasonably in respect to being informed regarding the potential risk outcomes.</i>
5. Relationships – trust and commitment	Essential that this is sustained over the long term between the parties
	<i>A difficult attribute to embed and sustain, as the outcome is often dependent on culture of the counterparty organisation, and the people involved, and must endure for 20 to 30 years. Maintaining relationships comes at a cost which must be recognised upfront and sustained. Providing other success factors are met, relationships are more likely to be sound and durable.</i>
6. Technical package	Site and species are appropriate, infrastructure in place, knowledge and skills to establish, maintain, harvest and market crop
	<i>The prescription for successful softwood plantations in the region is well known. Planting drier sites, with stock that is drought tolerant, or further planting of other species e.g. <i>P.pinaster</i> must be undertaken with caution.</i>
7. Enabling policy and incentives	Any impediments are identified early and resolved (e.g. local planning constraints)
	<i>NSW offers a good planning framework to establish plantations, however localised opposition to plantations must be managed through strong community engagement and a broad industry effort to sustain support. Victorian local planning provisions and regulation by LGA's may continue to be a material impediment, varying by LGA approach. Where triggered, VCAT appeals can potentially delay (2 to 3 years) and add significant costs to projects.</i>
8. Social licence	Essential that community angst / backlash does not create operational and political impediments
	<i>As stated above, a sustained and broad industry effort to build and maintain support is essential, combined with maximising opportunities for landholder participation in profitable tree growing.</i>

Source: Based on the Next Generation Plantation Investment Project (FWPA)

5.3 Rating of previous Regional models against success factors

The following table is a high level summary of how previous approaches in the Region may have been assessed against the success factors described above. Of note is that no one model could be said to rate highly against all elements, albeit freehold purchases address most issues, and would rate highly where the social licence and capital requirements are addressed.

Table 5-2: Scorecard for previous models adopted in the Murray Forestry Hub Region

Land access model	Freehold	FCNSW JV	ANM JV	MIS	Farm Forestry Loans	Other private investment
Success factors						
Planning	✓✓	✓✓	✓✓	✓	✓	✓
Marketing	✓✓	✓✓	✓	✓✓	✓	✗
Other income	✓	✓✓	✓	✓	✓	✓
Investment vehicle – Scale	✓✓	✓	✓	✓✓	✗	✗
- Risk allocation	✓✓	✓	✓✓	✓✓	✗	✗
- Investment outcomes	✓	✓	✓	✓	✓	✗
- Commercial arrangements	✓	✓	✓	✓	✗	✓
Relationships	✓	✗	✓	✓	✓	✗
Technical package	✓✓	✓	✓	✓	✓	✓
Enabling policy	Difficult to assess in retrospect					
Social licence	✓	✓✓	✓✓	✗	✓✓	✓
Overall rating	✓✓	✓	✓	✓	✓	✗
Key - ✓✓ generally achieved ✓ potentially achieved ✗ not achieved						

5.4 Recommended approaches for the Hub Region

The recommended approach to accessing land for plantation expansion in the Hub Region is founded on:

- previous experiences in plantation development in the Hub Region and elsewhere;
- the advantages and disadvantages of the various land access models described above;
- the risks and impediments to freehold land purchase; and
- the partnership model success factors described by the Next Generation Project.

A successful strategy will:

- overcome social issues associated with expansion;
- be technically feasible and operationally sustainable; and
- provide a sufficient economic return ensuring a materially expanded plantation estate.

The ability for government and large scale investors to purchase significant areas of freehold is likely to be limited, based on the current settings. Given both timberland investors, processors and landholders are all likely to have different objectives, investment timeframes and values, there is no 'one-size-fits-all' approach that will work. Therefore, a range of models that can be tailored to maximise the opportunities for land access must be considered. These are



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considered below, with an indicative order of preference, subject to the need to tailor as required.

Table 5-3: Recommended approaches to accessing land in the Murray Forestry Hub

Priority / Model	Rationale	Risks	Essential considerations
1. Freehold purchase	Simplifies investment strategy and can be done at scale and relatively quickly	<p>Unless the underlying investment parameters change, capital may be unavailable given current land costs</p> <p>Social issues need to be considered to ensure maintenance support for the sector within the community and in government</p>	<p>Government intervention to purchase land on behalf of investors, low interest loans or upfront grants.</p> <p>Assessed returns to include land appreciation and other benefits (e.g., carbon, biodiversity, community good). Also of note is that all agricultural enterprises face a similar challenge in high land costs.</p> <p>Carbon and timber prices should provide better overall returns in time.</p> <p>Limit purchases to strategic properties, ensure landscape dispersal, active community engagement to mitigate conflicts and garner support.</p>
2. Leasehold	Reduces upfront capital, potentially tempers community angst	<p>Financial model is unsustainable for tree crop investor given risk exposure. Sufficient cashflow must be available for duration.</p> <p>Insufficient landholders willing to lease land</p>	<p>Lease fees must reflect tree crops' capacity to pay and the risk allocation to the investor.</p> <p>Consider balloon payments to align with crop maturation and/or landholder's preferences. Cashflow must be supported by a mature business model.</p> <p>Be clear about responsibilities (weeds, pests restoration), test market with lease fees aligned to crop returns, explore potential for carbon offsets at a property level.</p>
3. Cropshare	Minimises social issues, shares risks between landholder and investor	<p>Long term relationship susceptible to fracture. Either party's interests / priorities may change. Complex and high administration costs. Long time to build momentum.</p> <p>Insufficient interest from landholders</p>	<p>Provide clear and transparent agreements, investor must be in a position to ensure sustainability and commitment to JV.</p> <p>Administration costs must be factored into investment model.</p> <p>Explore potential for higher returns through carbon, offsets and improved log prices and sound offtake agreement.</p> <p>Collective / coordinated participation encouraged to ensure scale and efficiency.</p>
4. Outgrower	Minimises social issues, encourages landholders to be active industry participants	<p>Insufficient capital, expertise, commitment not sustained (reversion risk), returns too low given risk profile, no direct access to markets</p> <p>Insufficient interest from landholders</p>	<p>Provide capital assistance through grants or low interest loans.</p> <p>Offtake agreements to ensure commitment for full rotation, guaranteed market access and improved log prices. Endure support through a cooperative / aggregated model.</p> <p>Higher returns through carbon, offsets and log prices.</p>



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To expand the estate as quickly as possible, Models 1 & 2 would be preferred. To build the estate in a sustainable manner that minimises social risks and transforms land use that genuinely integrates agriculture and forestry requires pursuit of Options 3 & 4. This will be a much slower process that will require aggregation to reduce the costs and risks of small timber lots. How this might be achieved is described below.

5.5 Meeting the challenge of disaggregated plantation development – Murray Region Forestry Hub plantation coordination role

New plantation development within the Murray Forestry Hub Region is likely to be undertaken at a significantly greater cost than previous expansion phases. This additional cost would primarily be due to land prices, and landholders locking in higher log prices under offtake agreements. It is also probable that land access will require more complex models requiring additional management and administration, and at a lower scale than previous programs that centred on freehold purchase.

However, with the environmental benefits of timber being embraced across all global markets, there are opportunities that lie in a very positive outlook for timber commodity prices, increased revenue particularly with carbon and significant private capital looking for timberland assets at a global scale. In addition, securing an appropriate return from the land will be an important component of the investment thesis.

As discussed, the strategy must be socially, technically and economically feasible and sustainable. To achieve this, the establishment of an entity that is ideally **landholder** driven, but supported by government (state and local), CMA's, investors and industry could achieve the following:

- Secure trust to be associated with government and regional business;
- Act as a facilitator for identifying landholder needs and designing plantation models accordingly;
- Be a point of coordination and ensuring that support for private plantations (joint ventures or outgrowing models) can be sustained and is not reliant on one off grants, short term policy or business decisions, and the interest of particular individuals;
- Act as a conduit for investor funds;
- Provide the opportunity for the processing industry to contribute funding or other support (offtake agreements etc);
- Support carbon aggregation; and
- Support and coordinate marketing and harvesting.

Ideally this would be an enduring trusted entity, that is capable of securing capital, being sustainable to ensure agreements can be honoured in the long term, has direct access to markets and expertise in optimising returns. It would provide for investment models that can be flexible to meet the requirements for landholders willing to host plantations, recognises the full costs associated with partnership models, and is therefore more likely to be sustainable and deliver returns in line with, or in excess of expectations.

This is not a new concept, with similar entities having withered in the past due to a lack of long term support and funding. What would be necessary for this model to make a meaningful contribution to the Regional estate is **support** from a broad cross section of the industry and community, with commitments embedded through **funding** agreements, strong **governance** and the pursuit of **successful** ventures to ensure the entity can be **self-sustaining**.

6. SUMMARY

6.1 Previous plantation expansion in the Murray Region

Around 60% of the current estate was established via conversion of native forest, primarily on public land. Government funding and state planning controls ultimately led to the balance of the estate being established on cleared land, the vast majority of which was purchased as freehold. Constrained capital budgets, community opposition and limited suitable land combined to contain land purchases since the collapse of most MIS schemes.

The MIS industry provided a modest boost to softwood plantations in the Region, but the subsequent collapse of the industry again curtailed expansion.

Leasehold models have not been successful despite a significant effort by Forests NSW in the 2000's. Limited take-up, marginal plantation land and sub-optimal management of the relationships involved potentially contributed to this failure.

Joint ventures have had mixed success. The ANM JV's established on good land (that was ex-native forest), had committed landholders and were thinned on-time generally provided the best results, with the parties expectations exceeded in some cases. However even the successful JV's were not extended to a second rotation as inter-generational issues played out.

A number of smaller farm forestry development groups have formed over the years but not been sustained primarily due to poor returns of failed crops / markets, and a lack of support from industry.

6.2 Approaches most applicable to the Murray Region Forestry Hub

Regardless of the mode adopted, underlying **financial returns must be improved** to attract landholders and timber investors. To an extent, the development of the carbon market and potentially significant structural improvements in log prices will provide a reasonable basis although top-up incentives by government and/or industry will be necessary.

Freehold - Clearly, freehold purchases (either by government or combined with investors) provide the best opportunity to build the estate at scale, more quickly, and simplifies the plantation model with limited parties involved. However, limits on capital and potential social issues may constrain the degree to which this can occur.

Tailored models including partnerships - A combination of approaches, tailored to meet the needs of landholders and investors will be necessary to ensure a material difference is made to the size of the plantation estate in the Murray Forestry Hub Region. This will not be straightforward, as the industry has very few examples of successful partnership models to draw on. It will also take time to develop momentum to achieve a material impact on the plantation estate.

Coordination / aggregation - The best chance of success maybe to ensure that a non-government / non-corporate entity is established to attract interest, coordinate the development of partnership models including funding arrangements, can offer ongoing technical support, carbon and timber marketing, and harvesting and transport services. The nature of this entity and how it is structured and termed requires further input from the Hub stakeholders.



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Appendix 1

Literature review of selected references and personal communications relating to land access for plantations



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References	Key issues / findings	Applicability to this study
Keenan, R.J., Anderson, N., Bull, L., Dembeck, K., Kostanski, L. and Patterson, S. 2019. Designing business models for commercial tree growing partnerships on rural land: a guide for the Victorian forest industry. Summary report. Report 10.	Provides the basis for the recommended business models – lease, joint venture or outgrower. Identifies key success factors being regional plans, offtake agreements, early alternative income streams, an appropriate investment vehicle to manage generate scale and manage risks, and the importance of trust and commitment from the parties involved.	Highly relevant
Jenkin, B, Keenan, R & Bull, L 2018. Tree plantation investment and partnerships in Australia: an analysis of past experiences, Report 1, Next Generation Forest Plantation Investment Research Project, The University of Melbourne, School of Ecosystem and Forest Sciences, Melbourne	Detailed review of plantation development in Australia, used as a basis for forming recommendation for future models as part of the Next Generation Plantation Investment program. Considers development by various governments, corporates and small holdings.	Highly relevant
Bull, L and Keenan, R 2020 - Next Generation Forest Plantation Investment Project Final Report, Forest & Wood Products Australia Ltd	A capstone report of the Next Generation project including an outline of the project, the outcomes and recommendations.	Highly relevant
FWPA, 'Review of policies and investment models to support continued plantation investment in Australia', prepared by R. de Fegely, M. Stephens and A. Hansard, 2011	Detailed review of previous investment models and policy settings	Relevant
Stewart, S, Race, D, Curtis, A and McDonald S. 2007 Social dimensions of plantation expansion in north east Victoria. A report to Plantations North East Inc. Institute for Land, Water and Society. Charles Sturt University	Reports the social issues of plantation expansion with a focus on the Towong Shire, Victoria.	Relevant
Gippsland Plantation Investment Project EOI Guidelines - https://www.tenders.vic.gov.au/secure/tender/downloadSpecDocs?tenderId=229338	Guideline document that contains details on the Victorian Government Gippsland Investment Plantations Program	Relevant
Matysek, A and Fisher, B - The Economic Potential for Plantation Expansion in Australia. BAE Economics - Report to the Australian Forest Products Association (2016)	Assessment of factors that influence the economic viability of new plantation development and risks associated with regulatory changes.	Relevant
FWPA Publication: Lifting farmgate profitability through high value modular agroforestry Project No: RRD401-1516	Considered specific opportunities to increase farm profitability, including the production softwood timber and honey as well as the co-benefits of grazing. Points to additional work required to embed trees into farming systems including demonstrations and working with farm and farm influencers (financiers, insurance agents and agronomists)	Partial relevance
Victorian Plantation Forestry History https://www.victoriasforestryheritage.org.au/forest-estate/plantation-forests.html#1967-to-1984	Describes the evolution of the Victorian plantation estate including government incentive schemes, opposition to plantation development, planning controls and private investment offerings	Partial relevance



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References	Key issues / findings	Applicability to this study
Curtis, A. & Race, D. 1998. Links between farm forestry growers and the wood processing industry: lessons from the Green Triangle, Tasmania and Western Australia. A report for the Rural Industries Research and Development Corporation. RIRDC Publication No 98/41 & RIRDC Project No UCS-10A. April 1998.	Provides specific details in relation to farm forestry schemes prior to 1998.	Partial relevance
NZ AGS Scheme (Afforestation Grant Scheme) Afforestation Grant Scheme Te Uru Rākau – New Zealand Forest Service NZ Government (mpi.govt.nz)	A contemporary example of plantation incentives, albeit in a different landscape.	Partial relevance
https://www.forestindustries.com.au/uploads/1/2/3/2/123273289/fifwa-wa-plantations-missing-piece-of-the-puzzle-2016-min.pdf	Provides a detailed background to the WA Sharefarming scheme.	Partial relevance
Independent Assessment - Wilmott Forests Premium Forestry Blend 2010 (Advisor Edge)	Details regarding the Wilmott offering 2010 Project	Partial relevance
Schirmer, J., Pirard, R., Kanowski, P.. 2016. Promises and perils of plantation forestry In Rajat Panwar, Robert Kozak, Eric Hansen (eds.). Forests, Business and Sustainability Oxford, UK: Earthscan	Provides a broad international review including case studies of plantation partnerships across	Partial relevance
NSW Forestry Road Map https://www.dpi.nsw.gov.au/forestry/industry-roadmap	Details the broader industry issues and strategies to address timber supply	Partial relevance
Rationalising Timberland Managed Investment Schemes: The Changing Landscape of Australia's Forestry Investment Sector (2016) https://newforests.com.au/wp-content/uploads/2015/06/New-Forests-MIS-Review.pdf	A perspective on the history and reasons for failure of the Managed Investment Schemes in Australia and the benefits of consolidation.	Partial relevance
Senate Standing Committees on Economics. Submission by John Lawrence 10th May 2015	A personal submission to the Senate Standing Committee - a detailed review of the MIS industry as it related to failed plantation investment schemes	Partial relevance
Identification of Plantation Expansion Opportunities in New South Wales. Southern NSW CRA. A project undertaken as part of the NSW Comprehensive Regional Assessments, January 2000 (BRS, SFNSW, ABARES)	A review of land capability and economics	Partial relevance
Agriwealth Pty Ltd 2022 Softwood Timber Projects https://www.agriwealth.com.au/images/projects/2022_soft-timber-projects/Agriwealth_IM_2022_website.pdf	An Information Memorandum for the AgriWealth 2022 Softwood Timber Project	Partial relevance



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References	Key issues / findings	Applicability to this study
Greenwood Strategy. Planning and Approvals Requirements for New Plantations in Australia. Report prepared for Australian Forest Products Association June 2021.	A detailed review of the planning and regulatory environment across the different jurisdictions in Australia.	Partial relevance
ABARES 2016, Australia's plantation log supply 2015–2019.	Plantation statistics including state, regional and species information	Partial relevance
Kevin, T. 2006. Multi-benefits of small-scale farm forestry in south-western Victoria, Australia and factors influencing farm forestry development. In: Wall, S. (Ed) Small-scale Forestry and Rural Development: The intersection of ecosystems, economics and society; Proceedings from the Small-scale Forestry and Rural Development Conference held in Galway, Ireland, 18 – 23 June 2006	Detailed review of farm forestry programs including the West RFA program in Victoria	Partial relevance
Private Forests Tasmania Annual Report 2015/16: http://www.pft.tas.gov.au/__data/assets/pdf_file/0011/141032/Annual_Report_2015-16.pdf	Details on PFT activities	Partial relevance
Mendham, D et al - Lifting farmgate profitability through high value modular agroforestry. A report for the FWPA	References the outcome of agroforestry trials in Tasmania.	Partial relevance
George, BH - Commercial and Environmental Values of Farm Forestry in the Murray-Darling Basin Irrigation Areas. Proceedings of Workshop Held at Deniliquin, NSW July 1999	Background to farm forestry including irrigated softwood plantations	Partial relevance
Forest Products Commission WA Annual Report 2016/2017	Details regarding Sharefarming plantation estate	Partial relevance
Softwood plantings on private land in the south west of WA - Situation Analysis – Final (DG Burnsire & Associates, July 2020)	Further expansion of details regarding sharefarming plantation estate	Partial relevance
John Dargavel (2004) The Fight for the Forests in Retrospect and Prospect, Australasian Journal of Environmental Management, 11:3, 237-244, DOI: 10.1080/14486563.2004.10648618	References the beginning of the community opposition to native forest conversion	Partial relevance
Groot, H, Bowyer, J and Bratkovich, S. (2015) The Role Of Cooperatives in Forestry (Dovetail Partners Inc). https://dovetailinc.org/upload/tmp/1579886434.pdf	A summary of US forest cooperatives and the opportunities presented	Partial relevance

Appendix 2

Summary of personal communications relating to land access for plantations

Industry contacts contacted for views on plantation land access	
Hugh Dunchue (Head Forester) Agriwealth Pty Ltd	Managed Forests NSW Joint Venture program in the 2000's and subsequently has headed Agriwealth's operations. Communicated doubts about the sustainability and effectiveness of leasing and joint ventures, and took the view that grants or incentives are the simplest most effective approach.
John Moore (ForAust Pty Ltd)	Managed ANM's joint venture and plantation program from 1985. Spoke of high level of early interest and success from landholders, primarily due to the utilisation of land that was otherwise unproductive (e.g. ex-native forest). Critical element was sustaining good working relationships with the landholder.
Grant Johnson (WA Plantation Resources Pty Ltd)	Currently manages the WAPRES estate of 30,000ha, 80% of which is leasehold (200 individual agreements). Single rotation lease agreements of between 10 and 12 years. Has been successful in maintaining the existing land base, with marginal land being gradually excluded. Lease payments are largely based on a capacity to pay which is a function of productivity and distance from the port. Good relationships they see as a competitive advantage – acquired many leases following collapse of MIS due to this. Important to get allies (real estate agents, agronomists and advisors) on side.
Tom and Vanessa Ranken (Private plantation owners, Tumberumba)	Planted around 89ha of joint venture crop with ANM in 1985 and 1991. Successful venture with good partners, productive land (ex-native), adjacent to forest with good access, close to markets (Visy / Hyne). Expectations were exceeded, but chose not to replant as next generation were not interested. Land sold to adjacent plantation owner.
Ken Epp, Dean Hawkins (Visy Pulp and Paper)	Two options – buy land (e.g. SWG proposal to government to enable TIMO leaseback), or develop partnerships. Need to change narrative to ensure softwood is seen as just another crop, must have a strong, trusted entity that may not be government or big industry. Plenty of community concerns to get over post fires and misinformation campaigns. Some opportunity with carbon (including nett zero targets for landholders), on-farm biodiversity. Must be well located strategically.
Rob Hescocock, HVP Plantations	Need range of models to suit landholders requirements – leasing probably the best chance of success but too much risk should not be borne by one party, particularly with insurance difficult to obtain. Net zero goals likely to have a big impact on livestock producers - government policies likely to have a push and pull element. Administration costs of joint ventures are inevitably very high. HVP haven't developed any greenfield plantations in the region since the VPC acquisition of note.



Industry contacts contacted for views on plantation land access	
Steve Dahl, GHD (ex- Norske Skog)	<ul style="list-style-type: none"> • JV can be seen as a 30 year 'marriage' – changes in the marriage partners (both company and landowner) inevitable and even more likely these days • Higher transaction costs / ha (if you cost in employee time) vs 'standard' freehold plantation – landowner discussions, agreement development, protection of the financial institution interests in land, financial analysis – for relatively small hectares • Higher operating costs / ha – vs 'standard' freehold plantation - ongoing landowner communication (including relationship management), landowner maintenance expectations (not just any 'ordinary' plantation), generally more effort for fewer hectares • Flexibility required to change arrangements 'on the journey' according to marriage partner circumstances – increased/reduce share of maintenance effort – and therefore % of revenue • Despite the potential issues – there are also some advantages: • Spokesperson and advocate on plantation issues / benefits within the community (someone independent with skin in the game) • Forest health and protection – someone on site to observe issues / respond to fire / alert to issues • Demonstrate integration of land uses is possible – avoid some of the social / community issues around support for services, depopulation etc
Brad Barr, Wespine (WA)	<p>See failures in pervious sharefarms due to sites, species, lack of thinning and market access. The SW Timber Hub led by Wespine are developing three models to fully test market for private plantations.</p> <ol style="list-style-type: none"> 1. DIY option – min size 10 to 15ha. Landholder funds establishment and wears risks. Wespine guarantee a sawlog floor price, indexed with CPI for all sawlogs age 25 to 27. Also guarantee to thin plantations with a floor price of \$0 for landholder (i.e. any thinning will not result in a negative stumpage for landholder) – any upside is for landholder. Wespine to organise carbon aggregation for \$0 cost, carbon rights retained by landholder, Wespine will sell C on behalf of landholder OR put ACCUs in landholders account. Timing is at Wespine's discretion. FPC to provide free seedlings (\$550 per ha), Also will provide decision tools, market costs / prices, and access to consultants. 2. Partnership JV – Wespine fund all forestry costs, landholder contributes land and operational costs – fixed crop share. Revenue from carbon and trees are split (may require negotiation to get interest), Requiring 20ha minimum. Facilitated by WA Tree Plantations Agreement Act (2003) - profit a prendre 3. Aggregation – targeted Shire of Boyup Brook, larger land holders, anti-forestry bent, antagonistic to conversion, invited hub to talk to them. 100ha min – DIY option at scale - plus Wespine would get council approvals. See opportunities to improve trust through banks and advisors. Improve the knowledge around carbon markets and opportunities



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Industry contacts contacted for views on plantation land access

Bruce Sonogon (ex. Farm Forestry Officer,
DNRE Victoria)

Plantations North East was the trading name for the Regional Plantation Development Committee – funded for 3 years and then incorporated, focused on softwood. Later ran out of funding.

FFORNE – funded short term to look at 5 hardwood species to build a 16,000ha estate (to allow a 200ha per annum harvest across a 20 year rotation)

NE Forest Growers was a marketing cooperative, became insolvent due to insurance and fees and insufficient support from large growers



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