

Financing Methods for Small-scale Hardwood Plantations in Queensland, Australia

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Under *Vision 2020*, a target was set in 1997 for trebling the plantation area in Australia by the year 2020. Government subsidies and extension for plantation establishment have largely disappeared, hence forestry expansion is highly dependent on access to private finance. In the state of Queensland, plantation expansion has occurred predominantly through managed investment schemes and the joint venture scheme managed by Forestry Plantations Queensland, a government-owned corporation. Most of these plantings are relatively small-scale hardwood plantations, which are designed to replace the hardwood timber from the native forests that will be protected from further logging after 2024 under the South-East Queensland Regional Forestry Agreement. Views on financing methods for forestry expansion in Queensland were investigated through by an email survey of 12 forestry and finance professionals, followed by in-depth personal interviews of the same group of key informants. Some of the issues identified include lack of transparent information, inequitable taxation system between Managed Investment Scheme (MIS) companies and small-scale forest operators, the need for further R&D on all aspects of the industry, the potential impacts of carbon credit schemes on the industry, and the design of a strategic model for forestry investors. Participants took the view that adoption of a strategic alliance model would encourage further investment in small-scale forestry, arguing that this model could protect the interest of all the stakeholders through reducing investment risk and creating competitive advantage. The potential introduction of a carbon trading scheme also attracted interest from investors, who look for recognisable structures that may alleviate the risk of investing in an industry with which they are unfamiliar. The participants considered that further R&D should be the main focus for government participation in small-scale forestry.

INTRODUCTION

The overall goal of the research was to identify financing structures that would suite the expansion of small-scale forestry in South-East Queensland. The research focused on the opinion of both financial and forestry participants whereas previous Queensland research has focused mainly on attitudes of landholders towards small-scale forestry. The key aspects investigated included were the effects of market failure, availability and relevance of the sources of information relating to small-scale forestry, the taxation system and its implications for small-scale forestry, the importance of research and development in small-scale forestry, potential effects of carbon credit schemes on small-scale forestry, and the methods available for financing small-scale forestry.

Traditionally forestry has been carried out on government-owned land but increasingly governments are being exposed to social and environmental pressures to either reduce or

abandon logging from the native forestry estates (Enters *et al.* 2003). These authors commented on the fact that the general public is exerting pressure on governments to implement environmentally friendly projects and make better use of taxpayer's money. Conservation pressures have seen governments seeking new ways to participate in the forestry industry.

The Australian government is faced with the challenge to meet the Vision 2020 targets, to increase the plantation estates by 2 M ha by 2020. Reaching this target will require the plantation estate size to triple from the 1997 census figures (Plantation 2020, 2007). To attract investment by the private sector the government has created favourable tax concessions (Belcher, 2006). The latest official figures show that 94% of all new plantings in 2006 were on privately owned land (ABARE, 2006). However, 86% of these plantings were earmarked for pulp production, linked to Managed Investment Schemes (MIS). These schemes are associated with short-rotation hardwood (12-15 years) and require high rainfall and fertile soils to achieve the targets set out in the investment prospectus of the companies (DAFF, 2007).

Unfortunately, the talk for large growth in small-scale forestry and substantial benefits to the landowners does not always equate in direct financial returns. Venn (2005) carried out a financial analysis of forestry in marginal rainfall areas in Queensland, addressing the various socio-economic factors, and found that the landholder's expectations and excitement with regard to small-scale forestry did not always result in positive financial returns. Clearly, small-scale forestry needs to be examined within a holistic framework and it is open for debate as to who should pay for some of these externalities. It is generally accepted that small-scale forestry will require further assistance from government because of market failure, particularly for plantations established in new regions. Harrison (2005) commented on both market and regulatory failure, suggesting the possibility of government cooperation in addressing these concerns. The need for governments to address issues such as weak property rights, uncompensated external benefits, imperfect market structures and lack of information by producers was noted. According to Harrison *et al.* (2000) the rapid growth throughout the world in small-scale forestry is inevitable but this growth is not without impediments that will need addressing if there is to be a successful outcome. The cited impediments are economic, structural and attitudinal.

The increased interest in carbon credit trading has seen a new group of investors enquire about the available opportunities in the timber plantation industries and the current investment vehicles available. The establishment of financial structures that will suit investors and landowners needs to be explored and developed so as to match the needs for both sectors.

Strategic alliance models have been used in other industries. Dunne (1999) observed that the uptake of strategic alliances in rural industries has been somewhat slow because historically there has been a lack of trust between the stakeholders in the rural industry. Dunne (2001) linked the success of strategic alliances to the building of trust which will then lead to new areas of synergy, interdependence and identification of possible cost

savings. Sharp *et al.* (2004) argued that not only would the strategic alliance engender savings but it has the potential to create a competitive advantage for the partners within the alliance.

This paper examines the existing financing structures in South-East Queensland and explores possibilities for meeting the funding requirements of small-scale forestry. The paper commences by explaining the current financing methods for small-scale forestry in South-East Queensland. Next, a literature review on the principles of strategic alliances and the methodologies employed for this research are outlined. The findings of the research are then described this section is followed by a discussion of the findings. The paper concludes with a set of recommendations for further research.

CURRENT FINANCING METHODS FOR SMALL-SCALE FORESTRY

For the purpose of this research, following Harrison *et al.* (2002) the term ‘farm forestry’ and small-scale forestry are used interchangeably. Small-scale forestry is viewed in reference to hardwood plantations including all woodlot plantings whether for windbreaks, shelter belts, agro forestry or break-of-slope plantings (Harrison *et al.* 2000). The financing structure does not change the definition of small-scale forestry. All sawlog hardwood plantings in South-East Queensland are considered as small-scale forestry.

There are two main groups in financing of small-scale forestry, namely government supported schemes and privately run schemes. Both groups use similar financial structures to establish small-scale forestry. Herbohn *et al.* (2000) studied the different financing methods available in Australia to finance small-scale forestry, concluding that there is no superior scheme that has been accepted throughout Australia, but rather a fragmented solution that aims to resolve independent situations. In broad terms the schemes that have attracted the most interest for financing small-scale forestry are joint venture schemes, leasing land to grow trees and purchase of land to grow trees. Smaller schemes such as the Tasmanian trust scheme and the Western Australian share farming scheme will not be discussed as they bear little relevance to the overall picture in South-East Queensland.

Plantation joint venture schemes were extensively researched by Anderson *et al.* (1998), Curtis *et al.* (1998) and Harrison *et al.* (1999). The researchers concluded that some of the impediments to the increase of small-scale forestry were adequately covered by these schemes. Issues that could be resolved through joint venture schemes are financial support with establishment, expertise in silviculture, reduced market risk through guaranteed sale, and stable annual income. However, these schemes have encountered resistance because many landholders did not wish to share equity with government agencies. In the joint venture scheme both parties have equity in the project and the landholder is able to invest during the life time of the project so as to increase their equity in the final crop.

Another form of finance that Harrison *et al.* (1999) described was land rentals referring to the landholder leasing their land for the duration of the rotation for an annuity payment. The third form of finance is corporate holdings where the landholder sells the land outright.

The privately run schemes generally take the form of managed investment schemes being publicly listed and raising their funds through issuing a prospectus to attract investors. Generally, in these schemes land to grow trees is either purchased outright or leased. The lease will be for the duration of the rotation which is generally between eight and 16 years. These schemes attract substantial tax concessions that can be passed on to their investors. These schemes have been highly popular in the last decade and are responsible for the growth in the plantation estate (DAFF 2007).

Venn (2005) performed a financial analysis of hardwood plantation in Queensland including payment for externalities such as carbon sequestration, salinity amelioration and ecosystem services. The sensitivity analysis was based on mean average increments (MAI) varying from 5m³/year to 25m³/year. This research suggested that plantations with MAI of less than 15m³/year are not financially viable. However, when externalities payments are added the plantation becomes economically viable. Lang (2006) argued that viability of small-scale forestry is closely linked to carbon credit payments because these payments can subsidise the management cost of growing trees. The same author further recommended that to gain economies of scale the project is run by a central body that is responsible for trading the carbon on behalf of the group.

STRATEGIC ALLIANCES HARDWOOD PLANTATION IN QUEENSLAND

Sharp *et al.* (2004) viewed strategic alliances as multi-faceted inter-organisational relationships. The alliance is not solely formed for reducing costs but also to achieve financial advantage over competitors. It can therefore be seen as improving inter-organisational services for all the participants. Sharp *et al.* (2004) emphasised how important respect, trust and commitment are to the success of strategic alliances. The outside commitments of each partner created a conflict of interest distracting from the overall alliance goals. This will need to be overcome by the partners to ensure the survival of the strategic alliance. Sharp *et al.* (2004) linked the success of the alliance to the level of integration and the mutual respect of the partners. However, he also argued that many of these obstacles can be overcome if the partners are dedicated to the success of the alliance and therefore willing to accommodate the objective of the alliance within their own strategies.

The strategic alliance model can be modified to the needs of the partners, allowing the flexibility of both vertical and horizontal integration. As an example, vertical integration may include the integration of tree growing and timber milling; however, for some partners it may be important to allow interaction with business outside the alliance (horizontal integration).

As Sharp *et al.* (2004) noted, there is a need for a strategic alliance between the relevant parties of the timber industry to create confidence in the long-term profitability within the industry. The overall collaboration and information flow between the partners can only assist the process moving forward and should mean more cost-effectiveness than if the agents operate independently. O’Keeffe (1998) recommended that before potential partners could establish a partnership, they would need to ensure that there is compatibility in business culture and common goals, because these are intrinsic to the success of the alliance. Liker (2004) stressed the importance of the information flowing to and from the partners. This information needs to be relevant to the alliance. However if the alliance is overloaded with information it becomes inefficient and the processes may be slowed or even halted.

RESEARCH METHOD

As a preliminary step a literature review was conducted to document the existing financing methods in small-scale forestry in South-East Queensland. This was followed by two surveys to establish the attitudes of forestry managers, portfolio managers, MIS managers, government policy advisers and academic staff to financing forestry projects. Their views were canvassed in order to identify what would be considered as the most suitable system that would increase the uptake of small-scale forestry in South-East Queensland.

The research was conducted over a six month period (June to December 2007) including surveys of 12 participants. The participants can be divided in four groups, namely forest managers, portfolio managers (including MIS representatives), academic professionals and policy advisers. In contrast to most previous research into forestry support mechanisms in Queensland that has focused on attitudes by landholders, this research targeted potential investors and current forestry managers.

Ethical approval for this research was sort from the ethics committee of The University of Queensland before the research commenced. All participants were given a confidentiality form to sign to protect their privacy and an outline of the research aims and processes while being made aware that they could withdraw from the research at any time. All data including transcripts and recordings were destroyed after being collated to further ensure the privacy of the participants.

Within the groups the individual participants were selected based on their current interest in forestry or financial areas and relevance of their knowledge to South-East Queensland and just as importantly for accessibility to the researcher. The individual participants were selected based on their, their current Twelve participants were considered to be a representative sample given their level of expertise and degree of specialisation. According to Hair *et al.* (2007) achieving validity of research largely depends on the rigour exercised in collecting the data. In this research the relatively small number of participants could be seen as a limitation, although as noted by Penrod *et al.* (2003), in

specialised areas of expertise this is less relevant because the responses are reliable in that information is collected from experts.

After the initial acceptance to participate in the research an email questionnaire was distributed to each participant in order to collect data related to the attitudes of the participants towards options for financing forestry. The questionnaire for the email survey consisted of eight sections and 11 participants returned completed questionnaires. The use of email to send and receive the survey facilitated the whole operation ensuring a quick turnaround. The replies were collated into themes and the response categories were divided into participants with forestry expertise versus participants with little or no forestry expertise.

Once these data were collated the follow-up survey was conducted via personal one on one semi-structured interviews using open ended questions. The interviews were recorded in order to collect qualitative data based on the themes identified in the email survey.

SURVEY FINDINGS ON FINANCING METHODS

A number of findings have been generated in relation to the financing and operation of small-scale forestry. These are now reviewed in terms of the effects of market failure on small-scale forestry, the availability and relevance of the sources of information relating to small-scale forestry, the taxation system and its implications for small-scale forestry, the importance of research and development in small-scale forestry, potential effects of carbon credits on small-scale forestry, the methods available for financing of small-scale forestry. Forming strategic alliances within small-scale forestry was identified during the research process as a potential solution to many of the problems associated with development and financing of small-scale forestry.

Availability of information in small-scale forestry

The respondents from the financial sector were of the opinion that the information available regarding small-scale forestry investments was often ambiguous with unbalanced representation of the future financial returns which made it difficult for them to recommend investment in forestry to their clients.

The forestry participants had concerns regarding the sharing of research and development information which can lead to duplication of research and unnecessary cost. This in turn leads to an inefficient use of resources that slows the overall progress of small-scale forestry. The same participants wanted to see greater transference of genetic material in order to achieve better outcomes for their investors and the general public. It was accepted that in some cases there was commercial sensitivity but that this could be resolved if all parties were united in a strategic alliance, therefore having a higher return for their investment and more funds available for further research.

Pricing of logs was seen as a murky issue and the lack of transparency has been of concern to both financial and forestry participants. Traditionally, prices have been set by

government agencies and the prices don't always reflect the market value of timber. About 63% of all participants believed that an open market pricing system would help the industry grow.

Relevance and source of information in small-scale forestry

Forestry participants were keen to source their information from seminars and their government contacts. The financial participants preferred to source their information from industry-recognised experts and current investors. Some of the reasons cited for this choice included that it was recognised that the information could be more tailor-made for their investors. All parties mentioned the difficulties in identifying accurate, reliable information and the quality of the sources. A general comment was noted in relation to the difficulty in obtaining appropriate financial information on small-scale forestry thus impeding its acceptance in the financial sector. This issue will need to be addressed before the participants stated that they would be willing to recommend investment in forestry to their clients.

The Australian taxation systems and its implication to small-scale forestry

The taxation system has been a crucial element in developing of small-scale forestry. This was demonstrated in the data collected by both the email survey and the follow-up personal interviews. Of the email survey respondents, 59% selected measures relating to taxation as being a method to reduce risk in small-scale forestry. Confirmation of this was then made in the follow-up survey, where it was argued that taxation benefits have been the catalyst for growth in the forestry industry.

It was suggested that there is a need to revise the taxation system in relation to forestry ensuring that the same benefits will be available to all relevant groups. Concerns were voiced as to the potential negative impacts that managed investment schemes (MIS) may have on the forestry industry with their tendency to focus on selling tax benefits rather than solely growing trees. Some participants went as far as warning of the necessity of having greater transparency for these schemes so as to properly inform the investors. Despite these concerns it was acknowledged that these schemes have created a critical plantation mass and that small-scale forestry will gain from these infrastructural investments and therefore MIS have made a positive contribution from this perspective.

The importance of research and development in small-scale forestry

In regard to government involvement in forestry, 50% of the participants in the email survey selected research and development (R&D) as being the most important area. The follow-up survey reiterated this finding, with the participants saying that forestry R&D needs to be focused on genetics, pest and disease management, wood quality, silvicultural methods and financial analysis of into new ventures. While it was accepted by the forestry participants that some research findings are available, the lack of up-to-date information and communication between the various agencies conducting research and the field officers was frustrating and this is encouraged the participants to be less

proactive when it came to research. The areas of research that were cited were taxation, social issues, financial analysis, financing models, landholder's attitudes, wood quality improvements and processing efficiencies. If these areas of research are not given adequate attention then the lack of information will remain an impediment to small-scale forestry.

Potential effects of introducing carbon credits on small-scale forestry

From the two surveys, it was established that participants agreed that trees are carbon sinks and that the potential introduction of a carbon credit scheme would make plantation investments more attractive. Half of the participants in the email survey had a preference for prices of carbon credits being set by the market. However, when broken down further, 80% of the financial participants were of this opinion compared with only 16% of the forestry participants, the latter preferring the option of a central body to set a fixed price every year. In the follow-up survey, these respondents explained that the fixed price being set by a central body would maintain stability and avoid market fluctuations having a negative impact on the profitability of plantations. One point all the participants agreed on was that carbon credits could become intrinsically linked to the success of small-scale forestry, particularly if a well-designed system is introduced.

Methods available for financing of small-scale forestry

The research found that the preferred modes of finance were either leasing the land from the landholder with the purpose of growing trees, or entering into a joint venture agreement. All participants were of the opinion that there needs to be a cooperative engagement between the investor and the landholder to achieve maximum efficiencies. Financial participants with no expertise in growing trees viewed the potential of plantations to be uncertain in early growing phases. In the follow-up survey, clarification was sought and it became apparent that the issues would be of less concern if the financial burden could be shared with other parties. The financial participants were looking for expertise in tree growing whereas the forestry participants were focusing on long-term commitments and potential for further investments. It was identified that new regions would require partnerships to share the responsibilities and experience in forestry but take a long-term approach in order to average out the financial risk between partners.

It was also mentioned that plantation establishment in new areas shows strong signs of market failure and may require government legislation to overcome this hurdle before investors would be confident to recommend any forestry investment opportunities to their clients. Government intervention would be a possible method of financing small-scale forestry through either partnership with investors or policies favouring small-scale forestry investments.

Managed Investment Schemes (MIS)

The email survey found that 69% of the participants believed that farmers and MIS would be the most suitable groups to develop small-scale forestry. During the follow-up

interviews this support became more qualified and concerns were raised relating to the lack of transparency and the exaggerated magnitude of the stated potential returns. It was further noticed that these schemes are well financed through shareholders funds but concerns were raised as to how these funds were utilised and whether these investments had the shareholders best interest at heart or were merely looking at satisfy the hunger of investors towards favourable tax minimisation schemes.

Currently MIS companies and other forestry ventures compete for land resources. At present, due to taxation advantages the MIS companies consistently outbid the competition for land. This creates problems because the land prices are inflated to above market values. For some time now MIS companies have purchased the most productive land which is now becoming more difficult to source. This means that MIS companies need to look toward more marginal land to meet their requirements. This land with its lower rainfall will be more suited to long rotations for sawlogs relative to land in higher rainfall areas, and in order to become viable in these new regions MIS companies would be inclined to join a strategic alliance. During the research some of the key informants were MIS representatives and these participants could see the merit to be part of an alliance with-in small-scale forestry in the future to gain some of the advantages that this would offer.

The forestry participants acknowledged that these schemes have created a critical mass and that this in itself has generated more interest in plantation establishment, from which small-scale forestry has gained. The lobbying power that these funds managers have towards government will help the industry and therefore small-scale forestry will grow.

DISCUSSION

Both the email and follow-up surveys helped to form an overall view of the attitudes from both forestry and financial participants to the issues that small-scale forestry is currently encountering. Some solutions were discussed in order to help the industry take advantage of the expected growth after the introduction of a carbon trading scheme.

All participants expressed the view that the traditional financing methods of joint ventures, leasing of land from farmers to grow trees and the purchase of land for growing trees have successfully achieved some of the goals set by the various organisations. The participants were somewhat more pessimistic about the expansion of small-scale forestry because this will require substantial new finance and the availability of suitable land in already established forestry regions is becoming limited, thus new approaches between the various partners will be needed.

The participants said that there needed to be improvement in cooperation between the stakeholders to ensure efficiencies and therefore allowing small-scale forestry to grow in a strong and sustainable way in South-East Queensland. The introduction of carbon trading schemes was seen by the participants as instrumental in the future growth of

small-scale forestry. There was a genuine concern about the fragmentation of the industry through various interest groups competing against each other.

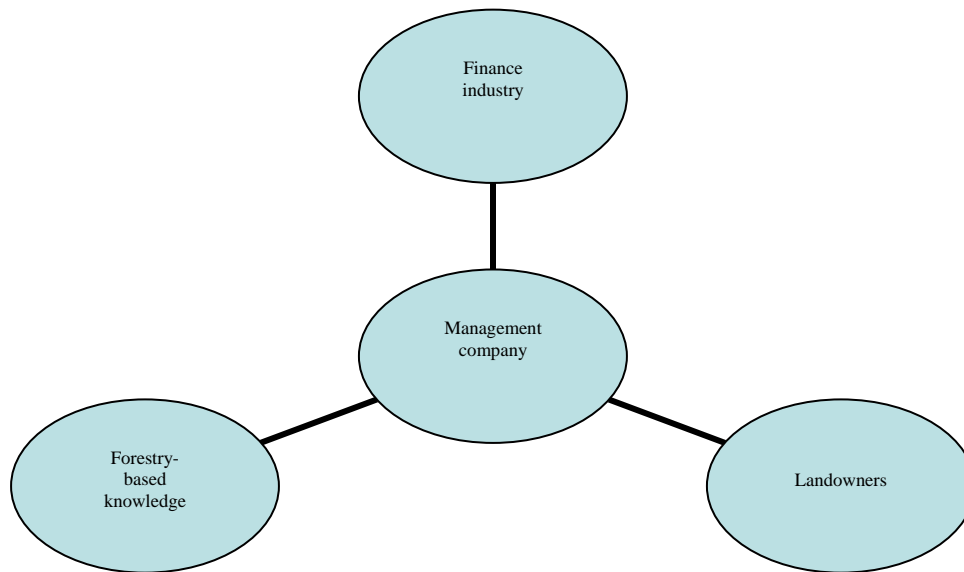


Figure 1. Strategic alliance diagram suggested participant, modified from Microsoft template

The concept of strategic alliance (Figure 1) was brought up in the early follow-up interview by one of the financial participants and was then introduced in later discussion to gauge the response of all the participants. The original strategic alliance model was a simple three prong approach where a central management company would be the liaison between the groups. It was noted that the strategic alliance model could be applied both in Queensland and throughout the world to help the expansion of small-scale forestry.

The participants discussed the strategic alliance model in depth, making many positive comments in regard to its possible implementation within small-scale forestry, and actually advocated that this would be a way to ensure the financial future of small-scale forestry. The flexibility of these arrangements appealed to the participants and the fact that it lends itself to replication in new regions was also considered a positive factor.

The strategic alliance model, figure 2 is a model that was designed using information gathered from discussions with the participants and with the ideas and model described by Sharp *et al.* (2004). It encompasses all the potential stakeholder groups that may have a position in the strategic alliance. At the centre of the alliance, a management company takes responsibility to find a common bond between the partners.

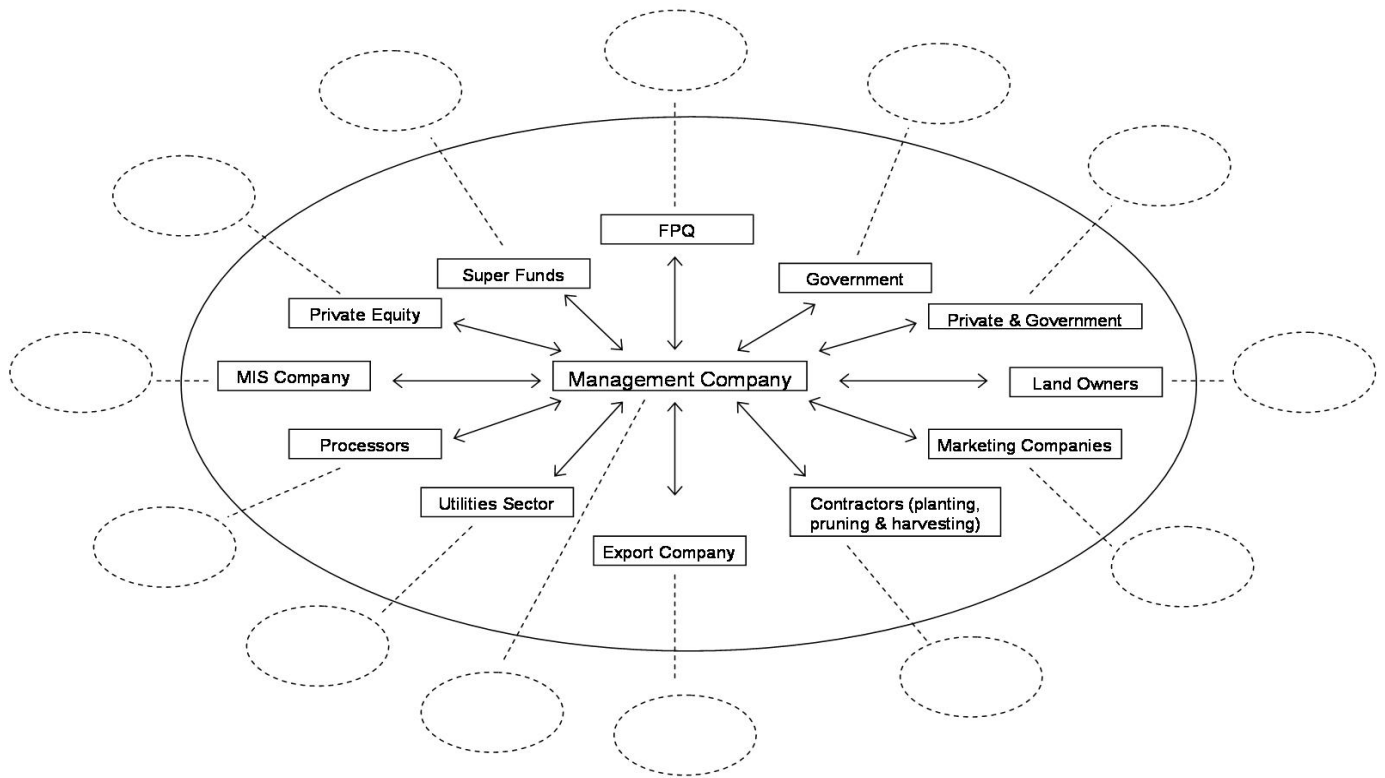


Figure 2 Strategic alliance model adapted from Sharp *et al.* (2004)

FPQ (Forestry Plantations Queensland), government, private and government research, land owners, marketing companies, contractors, export companies, utilities, processors, MIS, private equity and super funds all have an interest in forestry and as such interact with the central management company.

The participants emphasised the fact that there is a need for alliances to be flexible enough to accommodate both the interests of the members within the alliance and their commitments to partners outside the alliance. The outside partners which are not in the alliance are represented by the dotted lines and circles outside the main diagram. These represent horizontal integration whereas the squares represent vertical integration. The arrows symbolise the information flow between the partners within the strategic alliance. The participants expressed the view that the information should be centralised and diffused to the relevant alliance members to avoid information overload.

The management company is represented in the middle of figure 2 and as such it interacts with all members of the alliance. Its role is to bring together suitable members, distribute information amongst the relevant members, oversee the integration of all aspects from the plantation stages through to the sale of final forest product thus becoming a common link between all parties.

The strategic alliance model was seen as a way to overcome duplication in research which was a concern raised by the forestry participants. The view was expressed that too many research experiments are duplicated and this could be a poor use of resources. R&D expansion was seen as crucial if development of forestry in new regions is to occur. Strategic alliances would be large enough to invest in new R&D projects but more importantly the trust that has been created would allow the sharing of information

generated by the R&D between the partners, thus benefiting all partners within the alliance, and this may be a source of competitive advantage.

Instead of the members operating as many individual entities, forming a strategic alliance means that through economies of scale the alliance will be stronger and more able to overcome market failure. The strategic alliance model allows the members to establish plantations in new regions through supporting each other in a partnership. Without strategic alliances, individual entities would not enter new regions because the task of pioneering is difficult without support. It would then be left to the government alone to establish small-scale forestry in these areas which according to participants has become unrealistic in the current political climate.

Throughout the research the emergence of a carbon credit schemes was brought up as the main reason for the resurgence in interest in forestry. The participants emphasised that there was an opportunity for small-scale forestry to develop further from these schemes. The cost of auditing (setup and monitoring) may be too high for a small individual forestry operator to be able to earn carbon credit income. A strategic alliance may overcome this by sharing the cost of setup and monitoring over a large number of hectares with multiple partners, thus enabling the alliance to gain an income from carbon credits. In fact, it is conceivable that the alliance would be large enough to create its own carbon credit fund. In turn, the alliance would then create a snowball effect because its own success and size of plantations would attract further investment from carbon emitters, either from direct investment or through the purchase of carbon credits. The strategic alliance also allows the partners to be in a position to be involved in carbon trading. Without the alliance, the individual partners would be unlikely to ever be large enough to take advantage of carbon trading and management of carbon accounts.

Small-scale forestry suits the strategic alliance framework well because landowners who have small woodlots can continue to operate as part of the larger alliance, thus giving them the ability to be financially viable. The size of the woodlot would no longer be of importance provided it is situated within the area defined by the alliance. This means that small-scale forestry would be able to gain the same advantages as large-scale forestry because economies of scale have been achieved within the alliance. It could then be said that this would be the ideal solution for financing small-scale forestry.

The participants indicated that most of the high rainfall and fertile soil that would suite short-term forestry rotations in Australia has been purchased. This is creating pressure around suitable land availability. Land suitable for small-scale forestry is an increasingly scarce resource that creates competition throughout the forestry industry. This means that large amounts of money are dedicated to the purchase or lease of the land in a bid to secure the land above other competitors. Currently the prices paid for land have increased substantially due to this competition of life stylers, corporate buyers and existing landholders. This needs to be addressed for small-scale forestry to participate in the expansion of forestry related investments. Within a strategic alliance, competition would be reduced as partnerships are created leading to the focus of the partners changing to

development of small-scale forestry rather than spending money on competing for land, which then would release funds for use in research and development activities.

Strategic alliances have the potential to gain substantial political power in that they will be representing all the stakeholders in small-scale forestry as one lobby group. In addition to this, creating economies of scale will not only ensure a more profitable future in small-scale forestry but it will in turn as a consequence, generate regional socioeconomic, environmental and infrastructural benefits to the areas where the strategic alliances exist.

CONCLUSION

This research has identified strategic alliance as a model that could suite the development and financing of small-scale forestry in South-East Queensland. The survey participants viewed this model as a way to unite and overcome the major problems linked to small-scale forestry in South-East Queensland. As a model, the strategic alliance has many obvious advantages; however, some areas have been identified for further research.

There is a need to recognise the financial value to the partners of being within a strategic alliance versus the existing financing models of joint venture schemes, outright purchase of land or leasing to grow trees and investing in MIS. The values of strategic alliances should be examined on financial, environmental and socio-economic grounds. For an alliance to succeed the members must have shared outcomes expectations from forestry enterprise and the alliance itself. In the forestry industry there has been no research to clearly identify which type of partner would be most suitable for strategic alliances. Further, there is a need for research with regard to how a strategic alliance would operate within the forestry industry and how this model would work to help expand small-scale forestry.

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