Tree Change
The Australian Master TreeGrower phenomenon
The information contained in this publication is intended for general use to assist public knowledge and discussion and to help improve the development of sustainable industries. The information should not be relied upon for the purpose of a particular matter. Specialist and/or appropriate legal advice should be obtained before any action or decision is taken on the basis of any material in this document. The Commonwealth of Australia, Rural Industries Research and Development Corporation, the authors or contributors do not assume liability of any kind whatsoever resulting from any person's use or reliance upon the content of this document.

This publication is copyright. However, RIRDC encourages wide dissemination of its research, providing the Corporation is clearly acknowledged. For any other enquiries concerning reproduction, contact the Publications Manager on phone 02 6271 4165.

Researcher Contact Details
Rowan Reid
Australian Master TreeGrower Program
The University of Melbourne
Burnley Campus
500 Yarra Boulevard, Richmond
VICTORIA, 3121
Ph: 03 92506827
Fax: 03 92506885
Mob: 0409609939
Email: rfr@unimelb.edu.au
Web: www.mtg.unimelb.edu.au

RIRDC Contact Details
Rural Industries Research and Development Corporation
Level 2, 15 National Circuit
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604
Phone: 02 6271 4100
Fax: 02 6271 4199
Email: rirdc@rirdc.gov.au.
Web: http://www.rirdc.gov.au

© 2008 Rural Industries Research and Development Corporation.
All rights reserved.
ISBN 1 74151 718 4
ISSN 1440-6845
Publication No. 08/129
Project No. UM-63A

Published in July 2008
Printed by Union Offset Printing, Canberra, Australia
Foreword

The Australian Master TreeGrower (MTG) program is primarily a participatory outreach and extension project on agroforestry and farm forestry for farmers and regional advisers. Since 1996, it has delivered educational courses, prepared and provided extension information and tools, coordinated national extension events and supported regional farm forestry networks. In just a decade, over 1350 participants and more than 30 partner organisations have been involved in the delivery of 67 regional MTG courses throughout Australia. It has progressively become an integral component of state and regional extension programs. In recognition of its widespread success, the program was awarded the Allen Strom Eureka Prize by the Australian Museum for Excellence in Environmental Education in 2000.

This booklet provides a snapshot of the program and reports on the outcomes of numerous evaluations and assessments of its approach and performance. The real impact of the MTG program appears to be very much greater than what might be expected from a series of short courses for farmers and regional advisers. It has played a pivotal role in redefining how people think about agroforestry practices and extension in Australia and the role landholders can and should play in the research and development of revegetation options. It is this less tangible impact of the MTG program that, after ten years, is beginning to be evident in the way industry, governments and communities view commercial tree growing on farms and, increasingly, in positive landscape change on the ground. This is the ‘MTG phenomenon’.

The MTG program began with the financial support of the Myer Foundation. Since 1997, it has been funded by the Joint Venture Agroforestry Program (JVAP), which is supported by three R&D Corporations - Rural Industries Research and Development Corporation (RIRDC), Land & Water Australia (L&WA), and Forest and Wood Products Australia (FWPA). The Murray-Darling Basin Commission (MDBC) and the Natural Heritage Trust have also contributed to this project. The R&D Corporations are funded principally by the Australian Government. State and Australian Governments contribute funds to the MDBC.

This report is an addition to RIRDC’s diverse range of over 1800 research publications. It forms part of our Agroforestry and Farm Forestry R&D program, which aims to integrate sustainable and productive agroforestry within Australian farming systems.

Most of our publications are available for viewing, downloading or purchasing online through our website www.rirdc.gov.au.

Peter O’Brien
Managing Director
The Rural Industries Research and Development Corporation
Acknowledgments

Rowan Reid acknowledges the contribution of Peter Stephen who worked on the MTG program from 1997 to 2004. We would both like to thank the many farmers, forest owners, private industry members, researchers, regional extension staff, non-government organisations and government agencies that have contributed to or participated in the activities of the program.

We also acknowledge the contribution of Dr Tim O’Meara and his team who undertook the evaluation and social impact review from 1997 to 1999 and helped establish the philosophy underpinning the program and its evaluation. Special thanks go to the Myer Foundation and the Joint Venture Agroforestry Program who believed in our ideas and have supported the MTG program since 1996.

Abbreviations

JVAP   Joint Venture Agroforestry Program
MTG    Master TreeGrower
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>3</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>4</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>4</td>
</tr>
<tr>
<td>Intelligent Tinkering</td>
<td>6</td>
</tr>
<tr>
<td>The Master TreeGrower phenomenon</td>
<td>7</td>
</tr>
<tr>
<td>The Master TreeGrower Story</td>
<td>9</td>
</tr>
<tr>
<td>The stage</td>
<td>9</td>
</tr>
<tr>
<td>The plot</td>
<td>9</td>
</tr>
<tr>
<td>The audience</td>
<td>11</td>
</tr>
<tr>
<td>Tour dates and venues</td>
<td>12</td>
</tr>
<tr>
<td>The script</td>
<td>13</td>
</tr>
<tr>
<td>The genre</td>
<td>14</td>
</tr>
<tr>
<td>The cast</td>
<td>15</td>
</tr>
<tr>
<td>Enhancing performance</td>
<td>17</td>
</tr>
<tr>
<td>The response of the critics</td>
<td>18</td>
</tr>
<tr>
<td>Workshop opportunities</td>
<td>19</td>
</tr>
<tr>
<td>The epilogue</td>
<td>20</td>
</tr>
<tr>
<td>More than a one-trick-pony</td>
<td>21</td>
</tr>
<tr>
<td>References</td>
<td>22</td>
</tr>
</tbody>
</table>
Intelligent Tinkering

The Australian Master TreeGrower (MTG) program facilitates the exploration and development of agroforestry and farm forestry across rural Australia, primarily through participatory outreach and extension. It does so in a way that reflects the interests, aspirations and opportunities facing rural communities, while also meeting the needs of other stakeholders. The program commenced in 1996 and is managed by the School of Resource Management at the University of Melbourne. It involves farmers in the design and development of revegetation and forest management, as partners with industry, governments and the wider community. In essence, the program is about fitting tree growing into the farming landscape, rather than displacing it.

Land degradation, biodiversity loss, climate change, declining farm incomes and the ageing rural population are some of the real challenges facing rural Australia. Taken alone, it may well be possible to devise tree planting strategies that tackle each issue independently. But to do so ignores the fact that they are not independent. A project designed and implemented to solve one problem can impact on others or create new challenges. David Jenkins, a Master TreeGrower, lives near Bridgetown in Western Australia where plantations, particularly blue gum (*Eucalyptus globulus*) for pulpwood, have been planted across thousands of hectares on farmland purchased from farmers by investment companies. One of the arguments in favour of the plantation industry is that the trees will help control dryland salinity that threatens farm viability. David, like many, sees the irony: in a landscape crying out for trees to support agriculture and small rural communities, trees were now replacing farms altogether.

Aldo Leopold (1953), an early landscape ecologist, spoke about ‘intelligent tinkering’ as a guiding principle for the management of complex natural systems like forests and farmland. Using the analogy of a complex machine, intelligent tinkering suggests that you should keep every cog and wheel in the engine, even if you don’t understand its role, and only try to fix the parts that are broken. Only a fool would discard parts without knowing or understanding their role or purpose in the machine!

In 1999 the MTG program hosted an American forester and ‘intelligent tinkerer’, Dr Jim Finley, on a tour across Australia to speak to farmers as part of Agroforestry Expo ‘99. Although Jim arrived knowing little about Australian farm forestry he proved an inspiration to many Australian farmers. He spoke about tree growing as being like ‘writing a history on the landscape’ and that, as landholders, we had the opportunity to use trees to shape the land and write our own story on it. For David Jenkins it was the first time he had heard a forester say what he, himself, believed and valued: that growing trees on the family farm was more than just growing a crop.

I had met Jim in Pennsylvania while on a private study tour of the USA looking at how universities could be involved in forestry extension. While many forestry extension agents in the USA were, like many in Australia at that time, primarily focused on training farmers to behave like foresters, some, like Jim, were different. I watched him work with private forest owners in Pennsylvania. He shared his passion for the forest, his yearning to understand forest growth and response to management, and his concern about how poor management and neglect was threatening the sustainability, biological integrity, and economic viability of that state’s most important natural resource. Although widely acknowledged as one of the leading experts in forest management, Jim did not tell landholders what they should do—he encouraged them to decide for themselves what was required. It would be their decision and their responsibility, and the future of their forests depended on their commitment.

Dr Jim Finley had articulated what it was about the MTG program and tree growing on farms that was...
different to conventional forestry extension and practice. He had touched on why the program had attracted so much support and enthusiasm from farmers across Australia since its inception in 1996, irrespective of their previous experience in growing trees or their reasons for doing so. The MTG program was not a training course in best-bet forest practices, it was something very different: something that would have a more lasting influence on the development of agroforestry and farm forestry in Australia.

The Master TreeGrower phenomenon

The underlying philosophy of the MTG program is that agroforestry and farm forestry development should be guided by farmers. It should look and feel like forestry by farmers for farmers, and should reflect the diversity of interests, resources and aspirations of the farming community. To achieve this, farmers need to know how to design and manage forests to meet their own needs while producing the tree products and environmental services sought by the market and the wider community. In this respect, the choice of ‘Master’ was deliberate in naming a program that supports landholders to face the challenge of deciding what type of trees to grow, over what area and for what purpose, and ultimately accepting responsibility for these decisions.

Yet the MTG program does not only target farmers. It also challenges industry, government and interest groups wanting to see more forests on farms, whether for conservation or production, to learn different ways of thinking and operating. The program purposefully aims to strengthen relationships between the diversity of stakeholders, and facilitate empathy and understanding as the basis for building lasting partnerships. Involving farmers in timber production, for example, requires a fundamental review of all aspects of conventional forest establishment, management and marketing to reflect the interests and resources of the farm sector. By the same token, farmers must appreciate the product requirements of timber processors and their cost structures.

The MTG program therefore combines education, skills training, network development and leadership preparation. All these aspects are nested within a program that:

- has a philosophy that puts the landholders motivations first while acknowledging the legitimate interests of a wide range of other stakeholders;
- is committed to adult learning principles (Knowles 1990, Vella 1994, Fells 1999);
- promotes a uniform structure that emphasises learning and creative thinking (Coutts et al. 2005);
adopts a flexible framework that is responsive to the needs and interests of participants;

encourages farmers to take responsibility for their decisions regarding market opportunities, forest design and tree management;

provides on-the-job support, mentoring and professional training to extension staff; and

acknowledges the contribution of farmers to farm forestry extension, research and development.

This booklet reports on a review of the development, delivery and impact of the MTG program (Reid and Stephen 2007), including results of an internal evaluation of participants and the findings of independent reviewers and third party publications that have referred to the program. The MTG program is shown to positively impact upon the perceptions, attitudes and activity of course participants. Participants report making better tree management decisions and appear to increase their personal commitment to farm forestry as a result of the program. MTG participants are also making a greater contribution to farm forestry research, development and extension within their regions, particularly through their participation in regional farm forestry networks.

In addition to having a real and direct impact on particular individuals and their activities, the MTG program has also acted as a catalyst for change in many others areas. Tim Costello (1999) tells the story about how Ivan Illich was asked what he thought was the most powerful way to change society: was it by revolution or reformation? He replied it was neither. Rather you must tell a new and powerful tale, one so persuasive that it sweeps away the old myths and becomes the preferred story, one so inclusive that it gathers all the bits of our past and our present into a coherent whole. The MTG program has come to represent such a story for agroforestry and farm forestry in Australia; not because it is radical or new, but simply because it has been able to articulate what so many people were already wanting, thinking or doing before.
The Master TreeGrower Story

The stage

Much has been made of the great potential for agroforestry and farm forestry to become a valuable contributor to the economic and environmental well-being of rural Australia (Reid and Wilson 1985, AACM 1996, Alexandra and Hall 1998). Unfortunately, it is a potential that has largely arisen as a result of the impact that clearing native trees for agricultural development has had over a period of 200 years of European settlement.

Forest clearing has been concentrated in the areas of high agricultural and economic value based on climate, soils and proximity to population centres (Figure 1). Tree cover on working farms is now extremely low. Intact native forest is usually only found on land considered unsuitable for agriculture and is commonly in serious decline due to fire, weeds, gazing and isolation. In productive areas, a few scattered paddock trees or linear belts along roadways may be the only remnants of once productive and complex forest communities.

The environmental impact of forest clearing, and the subsequent development of modern agriculture, is estimated to cost the Australian economy more than $2.4b annually (Norris et al. 2001). Dryland salinity, considered to be a direct result of tree clearing, affects more than 4.5 million hectares and over 10,000 km of inland waterways (Norris et al. 2001). With the increasing value of timber, water and other forest products, the lost commercial potential is, in many areas, now much greater than the financial return currently being achieved from agriculture. Agricultural land in the area where native vegetation has been cleared is predominately owned by independent farming families (Hajkowicz and Young 2002).

The plot

The sheer scale of the crisis of salinity, soil erosion, acidity, degraded rivers and loss of native plants and animals shows that 24 million hectares—or over 40 billion trees—need to be planted throughout Australia to address these problems (Peter Garrett, then president of the Australian Conservation Foundation, in Henry (2002), p. 1.)

Targeted revegetation of cleared agricultural land is widely recognised as the most sustainable solution to the problem of dryland salinity. Trees on farms are also seen as a means of solving problems related to biodiversity.
decline, climate change, nutrient loads, animal welfare, crop productivity and economic diversification (Hajkowicz and Young 2002). Faced with the enormity of the problems, it is not surprising that governments, farmers and rural community groups are seriously looking at the potential of trees to financially underwrite the scale and diversity of revegetation required through the provision of commercial products and services (JVAP 2007).

Conventional plantation forestry is well established in Australia; albeit concentrated in a few strategic locations, owned almost entirely by corporations or state agencies, and based on a narrow range of species targeting large softwood mills or pulp and paper markets. In contrast to many other countries (notably New Zealand, Scandinavia and north eastern USA), the plantation and timber industry in Australia has traditionally been isolated, both physically and socially, from the agricultural sector. Until recently, few farmers had any direct experience with the forest industry.

In the early 1990s, facing concerns about clearing native forest for plantations and the poor returns on low quality sites, the timber industry and government targeted around 2 million hectares of privately owned, cleared farmland in higher rainfall areas for a dramatic expansion of the national industrial plantation estate (Commonwealth of Australia 1997). Since then, the area of plantation forest has increased by more than 600,000 hectares. Most of this has been eucalypt pulpwood plantations funded by companies offering ‘tax-effective’ investments on agricultural land purchased from farmers in the wetter margins of southern Australia (Stephens 2001).

There are now many published reports documenting the social, economic and environmental impacts of the spread of large-scale monoculture plantations across what was previously farmland (Spencer et al. 1989, Petheram et al. 2000, Schirmer 2000, Hopton et al. 2001, Tonts et al. 2001). In some quarters, plantation forestry development rivals native forest logging as the most controversial political issue in Australian forestry (Drielsma 2000).

Much of the current debate surrounding agroforestry and farm forestry development is aimed at reconciling the clear need for trees to underpin sustainable farming systems across all land types with the competition between industrial plantation forestry and family farming for high quality land in particular areas. Alexandra and Campbell (2002) argue that given commercial tree growing is clearly a powerful tool in reshaping landscapes more thought should be given to the community, cultural and ecological impacts, in

Figure 1  The areas of native vegetation cleared for agricultural development. Source: EA (2005)
Plantation impact studies suggest that an increase in integrated farm forestry (Tonts et al. 2001) or tree growing within farming enterprises (Petheram et al. 2000) would be a less controversial alternative. Schirmer (2000) reports that among those in rural communities where industrial forestry is seen as a threat, farm forestry or the development of plantations on agricultural land owned by farmers (pp. 27) is seen as very different to industrial plantation forestry despite the fact that it may involve the same species grown in a similar manner. Although some within the industry (Prosser 1995) argue otherwise, Alexandra and Hall (1998, p.15) highlight the importance of clearly distinguishing farm forestry from industrial forestry because the lumping of all forestry together tends to blur the issues which are important to farm forestry. Pearson et al. (2000, pp. 20) agreed adding that the acceptance of farm forestry is made more difficult when it is confused with issues which relate to plantation or industrial forestry.

Reid and Stephen (2001) argue that what clearly distinguishes farm forestry from corporate, industrial or government forests is ownership. Not just ownership of the land or the trees, but ownership of the decision to do it and how it is done. Just as the term ‘agriculture’ refers to the act of farming rather than the crop, agroforestry and farm forestry relate to the process by which forests are established and managed by farmers rather than the type, arrangement, purpose or location of the trees. To guide the MTG program, Reid and Stephen (2001) then define agroforestry and farm forestry as the commitment of resources by farmers, alone or in partnerships, towards the establishment or management of forests on their land.

Agroforestry and farm forestry are therefore about choice; farmers choosing to commit their resources to the development and management of forests for, among other things, commercial return.

Farmers may establish and manage their forests for any mix of benefits they might provide. They may place an emphasis on a single outcome, such as timber production or biodiversity, or they may seek to balance a range of benefits in a multi-purpose planting.

A forest initially established or managed for wildlife or land protection might later be harvested for timber or valued for its beauty or carbon credits. Forests on farms may increase agricultural production or simply displace it. They might be sustainable, even improve economic, social and environmental capital, or they may deplete these assets. The farmer, or their partners, may profit from farm forestry or come to regret their involvement. Making a commitment to forestry is not necessarily a good decision—it is simply a decision.

**The audience**

The Australian National Farm Forestry Inventory (NFFI) indicates there has been an exponential increase in the area of small grower plantations (Stephens 2001) (Figure 2). By 2001, an estimated 13,400 small growers owned a total of more than 67,000 hectares or approximately 5 per cent of Australia’s plantation resource. An additional 4200 landowners were involved in farm forestry through joint venture and leasehold schemes with industrial, corporate or government growers. There is also evidence of a dramatic increase in the active management of native forests on farms for commercial forest products and environmental services (Parsons 1999).

Should this trend continue, farmers could build in number to the point of being one of the largest cohorts of

![Figure 2](image-url)
the forest industry larger than the number of professional foresters or timber workers. In North America this is already the case with more than 10 million non-industrial private forest owners collectively managing approximately half the national forest estate and surpassing the combined timber production from both industrial and government forests (Biles 2001).

The diversity of motivations, interests, resources and opportunities inherent among small forest owners (Wilson et al. 1995, Stephens 2001) suggests we may be witnessing the beginnings of a dramatic shift in the nature and purpose of Australia’s forest estate: Where ownership is diverse, the forest composition is diverse. The diversity of human aspirations, capacities, values and knowledge drives the diversity in forest conditions (Bliss 2001 pp. 2–4). The apparent economic, social and environmental values provided by small-grower forestry are a direct result of the social character of the sector. Rather than try to change farmers, or displace them, the MTG program seeks to change the practice of forestry so that it is both relevant and attractive to the farming community.

The focus of the MTG program is on farmer decision-making. Farmers are encouraged to learn the skills, seek out the knowledge and form information networks that will give them the ability and confidence to design, establish and manage multi-purpose farm forestry systems and to negotiate the sale of farm forestry products and services. Industry, government and community groups interested in the products or services trees on farms provide are encouraged to articulate their own product or service specifications and outline their preparedness to reward those who deliver these.

While there is an expectation that the MTG program will result in greater establishment and management of trees and forests on Australian farms, what these forests look like and how they are managed is not predetermined – this will depend upon the interests, aspirations and ingenuity of the farmers, researchers, academics, community groups, policy-makers and industry players involved.

Tour dates and venues
At the heart of the MTG program is a short regional educational course (of approximately 42 hours) for farmers in the design and evaluation of personally appropriate tree growing plans. The university conducts these regional programs in partnership with local organisations, such as government agencies, community groups or industry bodies. In all cases, local representatives, financially supported by the region, have taken on the role of regional coordinator.

Between 1996 and 2005, 67 regional MTG programs were conducted across Australia involving more than
1350 participants (Figure 3). Local experts or specialist presenters, including regional timber processors and log buyers, reinforce the links between participants and those within the region who can provide ongoing support.

Participants usually pay a modest registration fee. The money raised pays for facilities, food, buses, photocopying and other local course-related expenses. As a non-accredited course, the participants do not pay an enrolment fee to the university. The university contributes staff for presentations (usually the introduction, measurement, silviculture and closing sessions) and course material including books, diameter tapes, MTG hat, gate signs and certificates. Presentations are held at a range of venues across each region so as to allow easy access to farms, forests and businesses for field tours.

The script

While every program is different, they all follow a similar eight-day framework (Table 1). This ensures consistency and uniformity, while at the same time allowing individual regions to adapt the content to suit their own requirements. The MTG program is principally designed to encourage participants to construct their own establishment and management plans and evaluate them against their own performance criteria. Hence, after the introduction, the program begins by exploring market opportunities and works backwards to project design on their own farms. By the end of the program participants are expected to be able to critically design and evaluate unique multi-purpose farm forestry systems that meet their land management objectives and constraints, while having the potential to produce a commercial product or service.

There are many problems which require design as much as they require analysis. It is with design that we construct and create solutions. It is not a matter of removing the cause of the problem but of constructing a solution. Design includes all those aspects of thinking involved in putting things together to achieve an effect. (Edward de Bono (1992) Teach your child how to think, pp. 22).
Table 1  The MTG program framework for regional programs

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mastering trees on farms (1 day)</td>
<td>Introduce the concept of agroforestry and farm forestry as farmers growing trees to meet their own needs (e.g., shelter stock and crops, control land degradation, provide wildlife habitat and generate income, etc.). Introduce design and management of multi-purpose forests on farms and the responsibilities of the landholder and others.</td>
</tr>
<tr>
<td>2. Growing trees for conservation and profit (3 days)</td>
<td>Review the prospects for timber (e.g., sawlogs, firewood, etc) and non-wood products (e.g., oils, bush foods, etc) and the emerging markets for carbon, biodiversity and other environmental services. Learn how to measure and monitor forest growth and values. Gain skills in tree establishment and management.</td>
</tr>
<tr>
<td>3. Integrating trees into our farms (3 days)</td>
<td>Explore opportunities for multi-purpose tree growing on the participants’ own properties through field tours and expert presentations. Topics reflect farmer and community interests such as biodiversity, shade and shelter, native forest management, salinity control, soil protection and landscape design.</td>
</tr>
<tr>
<td>4. Shaping future landscapes (1 day)</td>
<td>Review research and development needs in the region. Support an agroforestry network or Landcare group. Conclude with the presentation of MTG gate signs and certificates to completing participants.</td>
</tr>
</tbody>
</table>

The genre

Coutts (1994) provides a useful model that links three generally accepted extension paradigms (technology transfer, problem solving, education) with a higher level one he calls human development (Figure 4). With each level there is an increasing emphasis on the assumption that, given the opportunity and assistance, people will make better decisions for themselves and, ultimately, for their communities.

*Technology transfer* is ideally suited to solving simple problems. Ison et al. (1997) define simple problems as those where there is common agreement about their nature, effects and potential solutions.

Applying a technology transfer approach to complex, multi-faceted land management systems like farm forestry, land protection and nature conservation is considered inappropriate by many commentators (Geber 1992, Farrington 1998, Gray and Lawrence 2001). *Problem solving* is appropriate for dealing with many of the specific concerns faced by farmers, such as growing trees to control land degradation or shelter stock and crops, while *education* is fundamental to developing forestry management plans that balance a range of economic, environmental and social interests within a set of personal constraints.

At the highest level, extension can contribute to landscape change through the process of human development – or social learning (King 2000). Human development facilitates and stimulates individuals and communities to take the initiative in farm forestry development. This includes providing encouragement and support for farmers, communities, industry and governments to clearly define their own interests and expectations and to actively negotiate mutually beneficial outcomes. Frank and Chamala (1992) call this process the Participative Action Model (PAM), while Lanyon (1994) coined the term Participatory Assistance to describe the role played by extension agents who are focused on achieving a good outcome for landholders based on their particular situation and relationship with stakeholders.

![Figure 4 Coutts' four paradigms of extension. Source: Coutts (1994), as presented in King (2000, pp. 10)](image-url)
Led by the Joint Venture Agroforestry Program (JVAP), agroforestry research and development (R&D) in Australia has moved away from the identification and promotion of single purpose best-bet options or solutions (technology transfer) towards supporting farm forestry diagnosis, design and evaluation. This encourages a pluralistic, evolutionary and accountable approach to development (Anderson 1998, Race et al. 2001): pluralistic in that it works towards a diversity of outcomes in recognition of the diversity inherent in the economic, social and environmental landscape; evolutionary by encouraging innovation and adaptation in response to changing circumstances over time; and accountable by asking farmers to accept responsibility for land use decisions and requiring stakeholders to be answerable to the wider communities for their actions (or inactions).

The MTG program offers participants the technologies and problem solving elements they have come to expect from extension providers, while practising a diagnosis and design approach (education) and building the empathy, networks and confidence required for them to take on a role in agroforestry and farm forestry development (human development). Black et al. (2000, pp. 89) say of the MTG program that by actively involving landholders in understanding and applying basic principles, the diagnosis and design approach contributes more effectively to the development of a culture of continuous learning about agroforestry.

Farmers commonly enter the program seeking information and advice on the technical aspects of farm forestry; however, by the end most appreciate the significance of what the program is offering:

*Wasn’t clear on real purpose (originally thought it was purely education/extension program) until Rowan gave 1st, even 2nd talk, I realised how successfully the program was being run—seemed possibly too unstructured and too short on hands-on info till then.* (Cairns, Queensland, June 2001).

The MTG program’s extension model breaks down the barrier between the actors and the audience. Although most participants come to the program expecting to be passive learners they ultimately become more active, contributing to the learning, valuing each other’s contribution and challenging the ‘expert’ presenters.

The series of presentations by all members of the group [were most valuable]. It gives you an understanding that farm forestry is a very individual endeavour—that there are many different approaches to ‘skinning a cat’. Rather than feeling confused by that, it was a very liberating realisation. (Goulburn, New South Wales, July 2000).

*The opportunity to exchange ideas, info and expertise with others was, in my view, the most useful aspect.* (Hastings, New South Wales, June 1999).

### The cast

By the end of 2005, 1350 participants had completed the MTG program, of whom 25 per cent were female. The participants in programs delivered in the more traditional broadacre agricultural regions tended to gain most of their income on-farm, whereas participants in programs run closer to populated centres tended to derive much of their income off-farm (Figure 5). Of the 17 per cent that did not own a property, 13 per cent derived an income from a nursery or tree contracting business and 38 per cent from providing a tree support service (i.e. extension officers). Many others were looking to buy property.

The diversity among participants is also evident in terms of property size, rainfall and soil types; on-farm activities (e.g., cropping, wool, lamb, beef, dairy, orchards); involvement in forestry joint ventures; available resources of land, cash and labour; and their knowledge and experience in planting and managing trees. O’Meara and Wright (1999) suggest that this diversity is an essential ingredient in extending participants’ and presenters’ networks and empathy with the many different interests in farm forestry thereby forging stronger alliances for the future development of farm forestry in their region.

---

**Figure 5** Participants’ landholding background and income source  
*Source: Data derived from ‘Before’ Questionnaire where participants were asked: ‘Which of the following best described your situation?’ (n=761, with 1 non-response)"
The experience and knowledge of farmers is rarely acknowledged by extension programs, natural resource professionals or even other landholders. O’Meara and Wright (1999) believe that, for some, this had led to a feeling of isolation and neglect prior to the MTG program. Being involved in the MTG program shows participants just how much they have learned on their own by observation, reading, talking to others and through their own trial and error, and puts this knowledge in context. For some, recognition by the MTG program of their existing knowledge and the realisation that they share common goals with other landholders was a revelation.

Thought program was excellent. Particularly in the way it encouraged and valued people with hands on experience to share their knowledge. (Armidale, New South Wales, October 1999).

Feeling that I wasn’t crazy for wanting to encourage my native forest to grow with a bit of silvicultural help and growing fat trees not lots of tall skinny ones. (Gloucester, New South Wales, June 2001).

Previous studies (Wilson et al. 1995, Alexander et al. 2000) suggest that while many Australian farmers grow trees for shelter (75%), land protection (50%), nature conservation (30%) and aesthetics (10%), very few (about 1%) saw commercial timber production as a primary purpose. MTG program participants report that financial return, including commercial timber production, is an important motivation but that this must not come at the expense of other short-term or personal interests (Figure 6). Indeed, balancing apparently conflicting objectives in the design of multi-purpose forests is the focus of much of the course content, particularly the participants’ own presentations.

There are strong personal motivations underpinning participants’ interest in tree growing that come to light as they become more comfortable with the program and the group. These include issues such as passing the farm on in a better state or creating a more aesthetically pleasing environment (Vanclay 1992). There are also constraints or concerns that limit their preparedness to adopt some conventional forestry practices. Some express concerns about growing the species or designs common to industrial forestry as they wish to be seen by others as farmers not as foresters.

When asked to identify the ‘most useful’ topics in the program (Figure 7) many identified forest measurement and silviculture. This is probably a reflection of the limited focus they have received in other extension programs where the tendency is to focus on planting trees and not confusing farmers with the science of forestry. The MTG program places a great deal of emphasis on handing over the tools and language of forest management to landholders (e.g., diameter tape):

Silviculture—very appropriate and practical with inclusion of ‘hands on’ experience. (Katanning, Western Australia, 2001).

Practical aspects and site visits because can’t get this from books. (Kyneton, Victoria, June 2001).

Likewise those topics considered least useful were those they saw as ‘irrelevant’, ‘not practical’ or ‘poorly presented’:

Salt and salinity. I don’t have that problem. (Busselton, Western Australia, February 2000)
Native Forest Management. Not relevant to my situation. (Busselton, Western Australia, February 2000)

![Figure 6](image_url)

**Figure 6** Reasons for planting trees as stated by participants in the response to the question ‘What are your main reasons for planting trees?’

Note: Responses classified by MTG program managers. Source: Data derived from ‘Before’ Questionnaire where participants were asked: ‘What are you main reasons for planting trees?’ (n=772; respondents provided 1,514 ‘reasons’).
Having been subjected to many extension programs that only focus on the positive aspects of tree growing some participants saw the MTG program as a refreshingly credible source of unbiased information:

*The people with all the know-how were so practical. You dread it when people come out from universities with all their degrees, but it stood out so much—there was nothing 'airy fairy'. They gave all the negatives, how you wouldn't make much money, how it takes ages for change in salinity. Nothing was biased.* (Duranillin, Western Australia, August 1998)

*I know everybody was wrapped with the course and they got a lot out of it and there were some fantastic comments. They all certainly developed from the course, whether they thought forestry was better or worse, it didn’t really matter they were much more well informed of what they were getting into.* (Geelong, Victoria, June 1999)

**Enhancing performance**

At the end of the MTG program virtually all participants responded positively to seven simple evaluation questions (Figure 8). Participants reported that they now:

1. understand farm forestry much better
2. have much better practical abilities in farm forestry
3. can provide much better advice on farm forestry
4. can evaluate opportunities for farm forestry much better
5. can develop farm forestry projects much better
6. understand much better the farm forestry interests of other people in the region
7. have much better opportunities for networking on farm forestry issues
Whether or not the MTG program has dramatically changed practices in the short-term, it does appear to have been successful in building the confidence of participants to further investigate opportunities and in developing their ability to evaluate options against their own performance criteria. It has also generated enthusiasm to publicly debate and discuss farm forestry issues:

The program provided an excellent overview of farm forestry, gave us the tools required for doing our own research for our own purposes. (Hastings, New South Wales, June 1999).

From a personal basis I don’t know if anything has greatly changed, except that I feel more confident in the work that I am doing. The more background that you can get, the more confident you become. That has been a boost that way. (Colac, Victoria, October 2000).

The response of the critics
The MTG program has been independently reviewed by anthropologists, sociologists, economists and extension researchers.

In all cases they have been enthusiastic about the program, its approach to education and community development, and its impact on both participants and the development of farm forestry in Australia.

MTG graduates are growing and managing significantly more trees more successfully as a result of their participation in the program. (O’Meara and Wright 1999).

The Master TreeGrower Program has had a significant impact on the capacity and skills of people who work in farm forestry. Not only has the course delivered good information it also delivered the information in a way that is mindful of the local environment and the questions and needs of course participants. This attention to local relevance and individual requirements is an outstanding feature. (AgInsight and Agknowledge 2002).

The main effect of this increase in transfer of information is higher adoption rates of new productivity enhancing techniques, as a greater number of people hear of these new methods. This is called the ‘echo effect’ of the MTG program. (Bauer et al. 2003).

Nearly every participant involved in this course finds the programme enjoyable, effective and value for time and money. …the diligence and commitment to evaluating the impact of the course on stated objectives and regular review of course content and delivery has also been significant in its ongoing improvement. (Frost undated).

While it is difficult to derive reliable quantitative results in terms of the area of trees planted or managed there is considerable qualitative data that does support the
view that participants are more enthusiastic about tree management and better skilled to produce a markedly improved product.

I used to hate chopping down trees. I still do, but I now see it as essential for getting good diameter out of trees. Rowan turned me around on that, showed that thinning really pays off. (course participant cited in O’Meara and Wright 1999).

These results suggest that the Master Tree Grower Program is a clear success. The expected net present value of the program is $17.2 million at a 5 per cent discount rate, and the net benefit investment ratio is 11, implying a return of $11 for each one dollar invested in R&D. These results indicate a strong return on investment. These strong returns are primarily due to:

- the increase in area of trees planted leading to increased sales of carbon credits;
- the increase wood sales due to increased area planted, lower failure rates and higher growth rates; and
- the echo effect. (Bauer et al. 2003).

The only published criticisms of the MTG program were those raised very early in the development of the program by professional foresters in the Australian Institute of Foresters Newsletter. Cooper (1997) made the strongest criticism:

The term ‘Master’ is generally used for someone that has honed their trade over many years and is at the pinnacle of their chosen career, eg Master Silversmith, Master Craftsman etc. I hardly think that a farmer who has undertaken some tree planting on his/her property and has successfully completed 30 hours of training should be put in this category!

My underlying concern is that forestry is being taken away from those with the training. By training I am referring to 4 or 5 years of solid grounding in all aspects of forestry not ‘in vogue’ short courses. Unless we as an institute can somehow address this issue we will see ourselves being left behind with the farmers and agriculturalists guiding the new era of forestry in Australia—farm forestry.

In response, other foresters wrote in support of the MTG program. Hall (1997) argued, these courses … can only help to further our cause and facilitate a greater awareness in the general community of the forestry profession. Although supportive of the need to acknowledge the experience and contribution of leading farmers, Lyons (1997) added, I strongly agree… that ‘Master Tree Grower’ is an erroneous title.

Workshop opportunities

Although the technical content is very important to the participants, for many it is the network development and peer learning that results from their participation that makes the MTG program unique:

The interaction with other MTGs was probably one of the biggest advantages. Being able to discuss with other tree growers various solutions to problems, particularly landcare type issues, but integrating forestry into it. Just drawing on your own experiences can be fairly limiting, but when you got a dozen people interacting with all their combined experiences it is pretty important. (Otways, Victoria, September 2001).

MTG regional programs have resulted in the formation of core groups of farm foresters who network with one another to their mutual advantage. Some groups show a high level of cohesion and intra-group association. (O’Meara and Wright 1999).

Since the 1999 review there have been some formalised networks developed as a direct result of regional MTG programs and an increasing investment by the program in support for regional and national information networks. In their review of farm forestry extension, Black et al. (2000, pp. 97) point out that: the MTG has both built upon and contributed to a strengthening of regional agroforestry networks.

Farmer-to-farmer extension is happening and is undoubtedly influencing farmer actions. However, exactly how and where this transfer of information occurs and its perceived credibility or value is difficult to judge. The potential for MTG participants to act as positive change agents is beginning to be recognised:

It has helped prepare people to go on and establish other networks which is the lasting impact. I was thinking that it was important to keep that 24 together, but now those 24 are now probably interacting with maybe 100 people in ways we never thought of. They are the change agents out there and really effective ones. (Geelong, Victoria, June 1999).

I think the MTG program is terrific. Going to those farm forestry extension conferences is, you know, pretty daunting first off because as you have all those people entrenched in [government agencies], the MTG gives you a bit of a boost as you can now start talking the same sort of language. (Otways, Victoria, December 1996).

This has some important implications both for the development of farm forestry and the interaction between professionals or farm forestry experts and landholders. As the program coordinator of the course in Bridgetown, Western Australia (August 1997), commented during a telephone interview: Industry people are [now] being spoken to on equal terms, which makes them feel uncomfortable.
I just wish it could be more, but I don’t know what that more is. I wish it gave me all the answers... It did what it was supposed to do. It stirred the pot. It creates interest, creates action, gets things happening, asks questions, makes people think. Not necessarily creating answers, but maybe working towards that. (Otways, Victoria, 1996).

The MTG program represents a new approach to agroforestry and farm forestry extension in Australia. It has been extremely successful in stimulating farmer interest, enhancing their knowledge and skills and spreading this knowledge into the wider farming community. Evaluations have shown that this success is partly due to a social learning and development process that involves the farmers themselves along with regional interest groups and professionals.

Many commentators, not directly involved with the MTG program, have noted its contribution:

- Agroforestry Research and Development Priorities for Northern Australia (Turvey and Larsen 2001):

  The Master TreeGrower course has had a strong and positive effect on elevating the understanding and technical capacity of growers in the Northern Territory and this could be replicated elsewhere (pp. 32)... Several of the tree growers spoke very highly of the course, the learning experience, and the education obtained from this short course (pp. 40).

- Victorian Sawlog Farming Project—Community Consultation (Dimopoulos et al. 2001):

  Education programs including the Master TreeGrowers course were considered to contribute very positively to the professionalisation and assisted prospective farm foresters to maximise the benefits of tree growing for commercial and other benefits. (pp. 140).

- The Identification of Training Needs in Farm Forestry Project (Doig 2001):

  There are excellent programs such as field days and Master Tree Grower’s programs, all of which deliver high quality information. Training and gaining skills in a less formal situation such as the Master Tree Grower offers a very practical format for people. (pp. 145).

- Revegetation Information and Training Needs of WA Extension Intermediaries (Lloyd 2001):

  Although found to be one of the least used revegetation information and training formats among Intermediaries, the MTG was amongst the most preferred. (pp. 290)

The epilogue

The Dorrigo Master TreeGrowers celebrate their course
For a number of years those involved in the MTG program have been exploring ways of extending it deeper into the realm of human development (Coutts 1994) and social learning (King 2000). A number of ‘refresher’ days have been conducted with a focus on measurement and silvicultural management. Participants in these have seemed to value the reunion of the group as much as the information presented. In Western Australia, organised reunions drawing participants from a number of programs have proved very popular, suggesting that the MTG program provides an important sense of identity that remains well after the program is complete.

The Otway Agroforestry Network (Vic) was involved in the first pilot MTG program in 1996 and remain a fertile testing ground for the development of alternative participatory extension models for agroforestry and farm forestry. For many years the group employed past Master TreeGrower graduates to organise and deliver extension activities on behalf of the network. These have included formal site visits to the properties of members and the preparation of written reports providing suggestions on the design and management of appropriate agroforestry and farm forestry options for landholders.

In late 2005, under a new program funded by the Corangamite Catchment Management Authority (Vic), the MTG program was involved in training landholders, most of them past Master TreeGrower graduates, to act as peer-supporters. Their role is to assist (hand-hold) other farmers through the implementation and management of their revegetation projects. This might involve guidance through the planning and planting of a new forest to the pruning and thinning of an existing plantation. The concept has now evolved into the MTG Peer Group Mentoring program, with pilot projects conducted in Western Australia with the Australian Sandalwood Network and Trees South West. Master TreeGrowers participate in workshops that explore what it means to be a peer group mentor, how it differs from the role of a consultant or researcher, and how, as mentors, they can assist other landholders make more effective land management decisions and provide them with ongoing encouragement and support as they establish and manage their forests.

More than a one-trick-pony

The MTG program has provided a tangible example of an extension program that is focused on facilitating participation and learning rather than just the promotion of particular solutions. The apparent success of the program and the willingness of a wide range of stakeholders to participate should give those working in all aspects of farm forestry research, education and development the confidence to explore participatory extension and development approaches in their own work.

The experience of the MTG program has highlighted recommendations for those considering developing participatory extension programs of this type including:

• encourage regional ownership;
• let participants judge the market opportunities for themselves;
• hand over the tools and language of the discipline area;
• share the principles of system management, not just the recipes;
• allow for multi-purpose design based on the balance of landholders’ priorities;
• don’t shy away from risks, rather focus on risk management strategies;
• anticipate that the associated profession may be a barrier;
• avoid focusing on a single interest (such as timber) at the expense of others;
• ask specialists to discuss, not lecture, and to participate in problem solving with participants;
• support formal and informal landholder networks; and
• provide follow-up support in the form of newsletters, meetings, refresher courses and the like.

Farmers are just one stakeholder in the future of farm forestry, although arguably one of the most important. Until recently, few farmers had the confidence, knowledge and credibility to adequately represent their interests or try to influence government policy on farm forestry initiatives and research priorities. Farmers had been treated and encouraged to act as passive recipients of innovations and practices. The MTG program has been instrumental in providing farmers with the leverage, guidance, encouragement and a point of introduction to those in government, industry and the non-farming community.

Farm forestry is likely to become an important component of Australia’s rural landscape involving many thousands of farmers providing forest products and services to local, national and international markets. Because of the number of rural landscapes and communities, the multi-functional nature of trees and forests and the long timeframes involved, farm forestry is likely to enhance, rather than restrict, the economic and ecological diversity and resilience of rural landscapes. Where farm forestry will develop and what form it will take is more difficult to determine.
Tree Change

The Australian Master TreeGrower phenomenon

by Rowan Reid
RIRDC Pub. No. 08/129

The Australian Master TreeGrower (MTG) program is primarily a participatory outreach and extension project on agroforestry and farm forestry for farmers and regional advisers. Since 1996 it has delivered educational courses, prepared and provided extension information and tools, coordinated national extension events and supported regional farm forestry networks. In just a decade over 1350 participants and more than 30 partner organisations have been involved in the delivery of 67 regional MTG courses throughout Australia. It has progressively become an integral component of state and regional extension programs. In recognition of its widespread success, the program was awarded the Allen Strom Eureka Prize by the Australian Museum for Excellence in Environmental Education in 2000.

This booklet provides a snapshot of the program and reports on the outcomes of numerous evaluations and assessments of its approach and performance. The real impact of the MTG program appears to be very much greater than what might be expected from a series of short courses for farmers and regional advisers. It has played a pivotal role in redefining how people think about agroforestry practices and extension in Australia and the role landholders can and should play in the research and development of revegetation options. It is this less tangible impact of the MTG program that, after ten years, is beginning to be evident in the way industry, governments and communities view commercial tree growing on farms and, increasingly, in positive landscape change on the ground. This is the ‘MTG phenomenon’.

Most RIRDC publications can be viewed and purchased at our website:

www.rirdc.gov.au