

TRIAL OF A PROCESS TO ENGAGE WOOLGROWERS NOT ACTIVELY INVOLVED IN ENVIRONMENTAL ISSUES



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Report to Land Water & Wool

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September 2006

SUMMARY

Agricultural extension in the wool industry has traditionally involved trusted intermediaries – people with specialist technical qualifications and knowledge who have had a history of social interaction with woolgrowers in a particular district, and who are well respected for their ability to apply their knowledge to practical farming problems in the district. In natural resource management (NRM), there have also been people who have acted as trusted intermediaries, such as soil conservation officers in the 1950s and 1960s and some landcare coordinators in the early 1990s. However, the last decade has seen the introduction of a number of contentious NRM policies which have left an enduring legacy among woolgrowers of distrust of NRM agencies and their staff. While there are a wide range of agricultural practices with both productivity and environmental benefits, only a small proportion of woolgrowers have engaged with NRM issues through programs such as Land Water & Wool.

The question that this report addresses is whether it is possible to establish, through independent and trusted intermediaries, relationships of trust within which learning about, and adoption of, NRM practices can take place, thereby circumventing the difficulties posed by woolgrowers' negative experiences with, and attitudes towards, NRM agencies.

In the project reported upon here, four groups of producers were formed, two in the North Central Catchment Management Authority region of Victoria and two in the Lachlan Catchment Management Authority region in New South Wales. Each group held an initial meeting (needs analysis meeting) in which a consensus was sought as to the NRM issues that might be covered in a second meeting. The second meetings for three of the groups were farm walks with presentations on topics relating to soil health and pasture management by a farmer, researchers and extension staff. The second meeting for the remaining group was a discussion about results from pasture growth modelling to examine a number of issues in pasture utilisation and sustainability in variable climatic conditions. In all cases, evaluative telephone interviews were conducted with producers after the meetings, and with presenters and others involved in organising the meetings.

It has been found that it is possible to identify trusted intermediaries and, with their assistance, to establish woolgrower groups to learn about a number of the less contentious NRM issues and practices. Therefore, it is recommended that AWI and LWW consider developing a formal program using trusted intermediaries to promote wider engagement by woolgrowers in NRM issues. There are a number of important issues to consider in developing and implementing such a program and these are listed below.

In considering these issues, it should be noted that the project described in this report was not required to examine in detail all aspects of establishing a trusted intermediary program. As mentioned above, the main aim of the project was to trial the identification of trusted intermediaries and formation of woolgrower groups. For this reason, the observations that follow about program establishment should be regarded as areas for further investigation, rather than well-researched recommendations. However, the recommendations presented here as to the identification of trusted intermediaries, formation of woolgrower groups and the conduct of the early group meetings are made with some confidence, being based on the experience in the project.

1 The NRM issues included within the ambit of a formal trusted intermediary program must be carefully considered, in particular the distribution of public, industry and private benefits to the adoption of NRM practices. The report discusses a number of issues in this respect and suggests that a formal trusted intermediary program should, at least initially, confine its scope to those NRM issues and practices where there are demonstrable private benefits. The program should only be widened beyond these issues when the respective magnitudes of private, industry and public benefits are widely accepted and uncontentious, and the administrative arrangements for cost-sharing are in place and working to the satisfaction of woolgrowers. A staged widening of the program might be considered, first extending to issues and practices that involve industry benefits rather than public benefits, and finally taking in issues and practices with substantial public benefits.

2 While the question of the organisational location of a trusted intermediary program lay outside the scope of this project, it became clear in conducting the research, both from anecdotal evidence provided by key informants and from the secondary sources discussed in the report, that a trusted intermediary program should aim to distance itself from past sources of contention about NRM. Since the organisations and issues that have contributed to woolgrower mistrust vary considerably from State to State, and from region to region within States, a trusted intermediary program will need to have the flexibility to be associated with, or distanced from, different organisations and NRM issues depending on where the program is being introduced.

3 The identification and recruitment of trusted intermediaries is a critical stage in bringing a program to a district and requires knowledge of the social and extension networks in the district. The report provides details as to the possible types of trusted intermediaries and the qualities and skills they should have. It is important to allow ample time for this stage, and to be flexible and opportunistic in carrying it out. Trusted intermediaries with the full range of necessary skills are likely to be difficult to find and it will be necessary to provide training and support resources to augment the skills base of good candidates. However, it is unrealistic to expect that a trusted intermediary will have all the technical knowledge to be the sole presenter at group meetings over an extended period of time. This means that specialist presenters will need to be engaged on particular topics and the trusted intermediaries will need assistance and support in ensuring high quality presenters are engaged.

4 Recruitment of group members can be carried out by trusted intermediaries, or with the assistance of coordinators or facilitators of other groups, such as landcare, lamb marketing or woolgrower discussion groups. Recruitment and group formation would need to be supported by regionally appropriate publicity to describe the program and how it will be run. It would be important for the publicity to stress the independence of the program and its initial focus on agricultural practices with both productivity and environmental benefits. Any regional or local factors that may prohibit producer acceptance of the program would need to be identified and, if possible, overcome in the publicity content. It is recommended that groups should have at least six, but no more than 12-15 members.

5 The first meeting of a group should be an event such as a farm walk with good quality presenters. The success of this first event is critical to the success of the program and substantial support should be given to trusted intermediaries to assist them with organising and running it. After a successful first meeting, group members are more likely to tolerate 'whiteboard exercise' to reach a consensus on the group's

interests and future topics. It is recommended that no more than four meetings a year be scheduled and the timing should be flexible to work around busy periods in the farm calendar. It is also recommended that each meeting should end with a brief session to obtain a group consensus on the focus in future meetings.

6 While this project did not provide any experience with a program expansion phase, a number of suggestions can be made. As trusted intermediaries with the necessary skills will not be available in large numbers a program should have in place a strategy for ensuring potential intermediaries are identified and allowing group members with the skills and inclination to become trusted intermediaries themselves. Group expansion could be encouraged by having 'open day' meetings to which colleagues of group members can be invited. Groups should be split if there is a demand for membership beyond 12-15 members.

7 A trusted intermediary program should have evaluation processes in place to provide early warning of emerging problems or dissatisfaction among members. As NRM policy has a number of contentious areas, and future policy mistakes that arouse resentment among woolgrowers cannot be ruled out, a trusted intermediary program should have defensive strategies in place to maintain its independence and protect the relationships of trust between intermediaries and woolgrowers from any fallout due to future contentious or ill-considered NRM policy.

CONTENTS

1	RATIONALE FOR THE PROJECT	1
1.1	BACKGROUND	1
1.2	PROJECT OBJECTIVES	2
1.3	INITIAL OPERATIONAL PLAN	2
2	TRUST IN NRM AND AGRICULTURAL EXTENSION	4
2.1	INTRODUCTION	4
2.2	TRUST IN OTHER PRODUCERS.....	4
2.3	TRUST IN GOVERNMENT	5
2.4	TRUST IN AGRICULTURAL EXTENSION.....	6
3	PROJECT DESCRIPTION	11
3.1	INITIAL PROJECT PLAN.....	11
3.2	INITIAL EXPERIENCE WITH GROUP FORMATION	11
3.3	REVISED OPERATIONAL PLAN	13
3.4	THE GROUPS PARTICIPATING IN THE PROJECT	14
3.5	BRIEF DISCUSSION OF THE FACTORS CAUSING DELAYS IN THE PROJECT SCHEDULE.....	15
3.6	CONCLUSION	16
4	DESCRIPTION AND ASSESSMENT OF GROUP ACTIVITIES	17
4.1	INTRODUCTION	17
4.2	HEATHCOTE.....	17
4.3	SUTTON GRANGE.....	21
4.4	BOOROWA.....	25
4.5	MANDURAMA	28
5	ASSESSMENT OF THE TRUSTED INTERMEDIARY PROCESS.....	31
5.1	INTRODUCTION	31
5.2	DISCUSSION OF THE PROCESS	33
5.3	TERMS OF REFERENCE QUESTIONS	38
6	CONCLUSIONS	45
7	REFERENCES.....	47
8	APPENDIX 1.....	49
8.1	HEATHCOTE.....	49
8.2	SUTTON GRANGE.....	49
8.3	BOOROWA.....	49
8.4	MANDURAMA	51

ABBREVIATIONS

NRM Natural resource management

TI Trusted intermediary

1 Rationale for the Project

1.1 Background

In recent decades, natural resource management (NRM) issues have become increasingly important for woolgrowers and other primary producers. A number of these can result in declining agricultural productivity, e.g. reduction of grazing area due to dryland salinity, loss of soil fertility due to soil erosion, particularly during extreme climatic events, and loss of native pasture species which assist in maintaining ground cover during drought. Other NRM issues relate to community expectations about water quality from agricultural and pastoral land and biodiversity in agricultural and pastoral regions.

The Land, Water & Wool Program (LWW), jointly funded by Australian Wool Innovation Ltd and Land and Water Australia provides research and extension support to the wool industry to minimise its environmental impact, while enhancing productivity, so that the Australian wool industry is positioned as the world's most sustainable producer of premium natural wool (LWW, 2006).

The objectives of the LWW Program are :

- to identify key natural resource management issues from producers' perspectives and understand their perceptions, needs, priorities and practices.
- to increase wool growers' awareness of and motivation to tackle natural resource management issues.
- to provide wool growers with the knowledge and practical tools to address key natural resource management issues through productive and profitable solutions; and
- to increase the capacity of wool growers to apply natural resource management innovations within their commercial enterprise (LWW, 2006).

Over 1380 woolgrowers and their families are involved in LWW funded research on 230 properties across Australia, while a further 7,600 woolgrowers have taken part in program activities or received information from the program (LWW, 2005).

While the LWW Program has engaged some thousands of woolgrowers through participation in research and extension activities, there remain substantial numbers of woolgrowers who could potentially improve their profitability and sustainability by using the findings from the Program. For example, in the southern New England region, some 48 per cent of woolgrowers had not heard of the Land, Water & Wool Northern Tablelands Project (Reeve, et al., 2006).

An important question, then, is how these substantial numbers of woolgrowers might be encouraged to consider the emerging NRM practices, developed and demonstrated in programs such as LWW, that might help them improve their profitability and sustainability. Unfortunately, many woolgrowers have experienced in the past what they regard as inadequately justified and unfair NRM policy changes. The way in which the consultative and participative phases of these policy changes has been handled also has done little to develop among woolgrowers and other primary producers any confidence or trust in the agencies managing these phases of policy change.

On the other hand, it has long been accepted in agricultural extension that building trust and credibility in the relationships between primary producers and extension agents is essential if primary producers are to make the investment in time, cognitive effort and money to learn about new practices, trial them and adapt them to their production system. Such relationships currently exist in wool growing areas, typically among woolgrowers and agricultural and veterinary consultants and agriculture department extension officers. These people have an intermediary role between agricultural research and development and farm practice, and are referred to in the remainder of this report as trusted intermediaries.

While it is possible that, as NRM policies and institutions evolve in the future, their credibility among primary producers may be restored, this is likely to take long periods of time – periods within which producers could potentially benefit from improving their profitability and sustainability. In addition, there is the risk that growing credibility could be quickly destroyed by a single policy or implementation mistake. Given the growing politicisation of NRM in Australia, this risk is not insignificant.

The question that this report addresses is whether it is possible to establish, through independent and trusted intermediaries, relationships of trust within which learning about, and adoption of, NRM practices can take place, thereby circumventing the difficulties posed by woolgrowers' negative experiences with, and attitudes towards, NRM agencies.

1.2 Project Objectives

The project objectives were:

- to determine whether a method of engagement involving a trusted intermediary can be used to stimulate interest and involvement in the kind of NRM issues that are the focus of the LWW Program,
- to advise on the potential transferability of the method across the range of woolgrowers in the industry, and across the range of NRM issues they face,
- to identify the characteristics of individuals who may fill a trusted intermediary role with a group of wool producers,
- to evaluate the woolgrower reaction to the method of engagement and advise on possible refinements to the method, and
- to prepare recommendations on specific requirements in the process and things to avoid

1.3 Initial Operational Plan

The operational plan initially envisaged for the project comprised the steps listed below.

- Identify four groups of woolgrowers in appropriate localities who do not have a special focus on NRM issues. Examples of such groups include Bestwool/Bestlamb, stud breeders, a sub-group of a farmers association branch, or a sub-group of a non-active Landcare group. The group localities need to be within either the Victorian North Central CMA or the N.S.W. Lachlan CMA. Ideally, two groups should be identified within each of these CMA's.

- When the groups have been identified, determine whether there are individuals who may fulfil the role of a trusted intermediary with each of the groups. In some cases a person who is already working with a group as a coordinator/facilitator may readily fill this role. Where such a person does not exist, it will be necessary to determine whether there is anyone who may fill the role of trusted intermediary for that group.
- Working with the trusted intermediary of each of the groups, arrange meetings of each of the groups for the purpose of determining what NRM issues are of particular concern to them in terms of their production processes. Determine which of the NRM issues identified are of greatest concern to group members.
- Working with the trusted intermediary of each of the groups, organise a farm walk for each of the groups in which the NRM issue of greatest concern will be addressed. Such organisation will include when and where each of the farm walks will be held, who may be used as specialist presenters, and so on. All that the staff of this project will do is assist the trusted intermediaries in arranging the farm walks. It will be the responsibility of the trusted intermediary to inform and, if necessary, negotiate with the group members the arrangements for the farm walks. The plan is to organise and conduct two of the farm walks (for two of the groups) before the other two farm walks are organised. This approach allows for what is learnt if organising and conducting the first two farm walk meetings to be applied in the organisation and conduct of the remaining two farm walk meetings.
- Assess the group members experience of their farm walk meeting. This will be done by a project staff member each of the farm walk meetings and then interviewing by telephone those producers who attended each farm walk meeting.
- Prepare a draft report on the findings of the project. This draft will be reviewed by LWW staff.
- Prepare a final report and meet with LWW staff for the final debriefing.

2 Trust in NRM and Agricultural Extension

2.1 Introduction

Trust is involved in NRM in at least three completely different ways. Firstly, if the benefits of the adoption of NRM practices depend upon others also adopting these practices, then adoption by any one producer is favoured if they trust other producers to also adopt the practice, so that the first producer's investment is not rendered valueless. Secondly, since NRM often involves government agencies, trust in government is relevant to the adoption of NRM practices. Thirdly, the need for NRM practices is generally justified by scientific reasoning, so that adoption of these practices can depend on trust in science and the advice based on this science.

This chapter provides a brief review of these three forms of trust to provide a basis for the discussion in later parts of the report.

2.2 Trust in Other Producers

Biodiversity in agricultural landscapes is an example of the type of NRM collective action problem where trust among landholders may influence the willingness to adopt NRM practices. The action of one landholder in managing a vegetation remnant for biodiversity values may have little impact unless others in the region follow suit to provide broader areas of habitat for species that require more than just one vegetation remnant. Collective action problems also arise in areas of agricultural practice outside of NRM. For example, producers' willingness to accept quarantine measures for control of diseases such as footrot or Ovine Johne's Disease, will be in part related to their beliefs about how diligent other producers will be in adhering to the quarantine measures. Similarly, willingness to accept various product quality assurance or animal welfare assurance measures such as accreditation will depend on producers' beliefs about their colleague's diligence and honesty in adhering to their accreditation requirements and so protecting the industry common good in product price and market access.

Trust and collective action in NRM have been widely studied, drawing upon two bodies of theory: sociological theories of trust and social capital formation (Putnam, 1993; Fukuyama, 1995) and economic game theoretic approaches to explain the emergence of cooperation among self-interested utility-maximising individuals (Axelrod, 1994; North, 1990). Among the best known areas in NRM is Garrett Hardin's formulation of the tragedy of the commons (Hardin, 1968) and the subsequent work on the conditions under which commons such as regional biodiversity, regional water quality and regional water tables are managed cooperatively and sustainably (Bromley, 1989; Ostrom, 1990).

Both these bodies of theory are relevant to the adoption of NRM practices. For example, in irrigation areas in New South Wales, there have been more opportunities for social capital formation among irrigators in the southern irrigation areas which are based on water supply by channels and have a long history of collective management and self-regulation by local irrigation trusts. In contrast, in the northern parts of New South Wales, and particularly where irrigation is based largely on opportunistic off-allocation harvesting of flood flows into on-farm storages, there is no history of

collective management of the resource. Consequently, it may be easier to build other forms of collective action in NRM in southern New South Wales irrigation areas where resource access has depended on trust and cooperation, compared to northern areas where success in resource access has gone to those with the biggest pumps and storages.

In the game-theoretic approach, the emphasis is on the collective and individual pay-offs to cooperation versus non-cooperation. At the simplest level, collective action is favoured where there are obvious and substantial pay-offs to cooperation and obvious and substantial losses to not cooperating. When the collective pay-offs to cooperation are small, and slow to occur, when there are large and immediate individual costs to cooperation and when there are large and immediate pay-offs to pursuing individual interests, then cooperation is much less likely to emerge. This is the type of distribution of costs and pay-offs to be found in environmental management systems (EMS) in agriculture, and is the reason that EMSs such as ISO1400 are rarely adopted in agriculture.

2.3 Trust in Government

The second way in which trust is involved in NRM is through the involvement of government. While on a small subcatchment with a handful of landowners, collective NRM might be sustained on social relationships and trust alone, once NRM issues extend to regional and national scales, involvement of government agencies is unavoidable. The willingness of landowners to cooperate with regional plans developed by government agencies depends upon the levels of trust and credibility they afford these agencies. There are a number of theories about the development trust in government and, as for trust among resource users discussed in the previous section, these theories can be divided into those that conceptualise trust as the result of rational calculation by the individual and those that place trust in a social context that sees trust as beliefs, values and attitudes developed through a history of social interaction and participation in civic affairs (Job, 2005).

In the literature on trust as rational calculation by individuals, there is considerable evidence that the past performance of governments with respect to issues that impact upon the individual is an important factor in determining the level of trust they place in government. The past performance of NRM policy in Australia has been somewhat varied (Reeve, et al. 2002). Most older primary producers today will be familiar with the State soil conservation agencies established around the middle of the 20th century. As these agencies had more of an extension role than a regulatory role, and provided subsidised plant hire and property planning services, they were generally well respected and trusted by primary producers.

From the late 1980s, legislation began to be introduced in the States that intervened more seriously in how primary producers managed their land. This included restrictions on tree clearing and attempting through catchment planning to align practices on individual farms with broad NRM goals at a catchment levels. Further developments in the 1990s, such as the Council of Australian Governments (COAG) water reforms and the formation of regional catchment management organisations by the States added further to the burden of government intervention faced by primary producers. Many of the practices being promoted had a public good component, the level of which could be uncertain and contested, leading to resentment among primary producers (House of Representatives Standing Committee on Environment and Heritage, 2001).

As is inevitable when innovation in public policy takes place, a number of dysfunctional and unsuccessful NRM policy initiatives occurred, and these have also left a heritage of ill-will and distrust of State NRM and environmental agencies (Lambert and Elix, 2000). For example, among the woolgrowers interviewed in the Land, Water & Wool Northern Tablelands Project (Reeve, et al., 2006), about one fifth of growers believed they had been impacted by native vegetation laws, and when asked how the laws could be improved, 29 per cent considered the laws should be amended to allow selective clearing, while 13 per cent considered that they should be abolished.

The levels of debate and contention encountered in the establishment of regional NRM agencies and various NRM strategies at the State level have varied between States and within States. Native vegetation and environmental flows have been particularly contentious in New South Wales. This means that, in general, levels of trust in NRM agencies are likely to be relatively low in New South Wales compared to other States. However, substantial regional differences in levels of trust in NRM agencies within States can also be expected. For example, distrust in the administration of native vegetation legislation is greater in the northern parts of New South Wales where there is potential for further clearing and property development, compared to southern parts where there is little potential for further clearing.

Mistrust of State and Commonwealth governments is likely to remain a feature of rural Australia. This is because continuing population growth in the coastal fringe and metropolitan areas exacerbates the minority status of primary producers in electoral representation, leading to a growing sense of disenfranchisement. This is reflected in the often articulated claim that State NRM agency policies are captured by the 'urban green' agenda (see Manin, 1994 for other factors contributing to disenfranchisement). This highlights the need for research such as that reported here to work around the inevitable and ongoing disinclination of many primary producers to become too closely involved with government NRM agencies.

2.4 Trust in Agricultural Extension

The third way in which trust is involved in NRM relates to the science of the practices themselves. The adoption of NRM practices will, in many cases, represent a substantial intervention in the production system. Producers will need to trust that the science that is presented to them predicting the benefits of adoption can be trusted. This type of trust is also a requirement of agricultural extension more generally and has been researched in some detail since the late 1970s. It can be argued that, in the adoption of NRM practices, this third type of trust has to come first. No matter how trustworthy governments and other producers are believed to be, most producers will want to know first of all whether they can trust that the practices they are being asked to adopt will perform as predicted.

The concept of trusted intermediaries has been well described from the research on the process of providing information and advice to producers. The main focus of this research has been to determine ways in which the effectiveness of achieving the adoption of new practices by producers can be improved. While these results indicate that the best approach to use in extension is that of multiple methods (Vanclay 2004), the success of this approach will still depend on the level of trust that exists between the extension workers and their target audience.

Building trust between extension workers and producers is not something that can happen overnight. There are several factors that may influence the level of trust and these are briefly discussed below.

Probably the most essential element in building trust is the credibility of the extension worker as seen by the producers (Anderson 1979). An individual who is considered to be credible by others is someone in whom they can be confident that the information/advice that the person provides is believable, relevant, and useful. For convenience, the development of credibility and, therefore, trust by extension workers is described here as occurring in three stages. However, in practice these stages overlap, and it is appropriate that extension workers concentrate on developing credibility in all stages all the time.

2.4.1 Stage 1 – The Level of Trust held by the Employing Agency

The first stage in the development of the credibility of a new extension worker is the existing credibility of his/her employer. Extension workers may be self-employed (as consultants), or they may be employed by non-government organisations which receive some government funding, or by government departments. In the case of consultants, their initial credibility with their target group of clients will depend mainly on the clients' existing attitudes towards consultants. Those prospective clients who have had a positive relationship with a consultant in the past, and those who have been told by other producers (whose opinions they trust) that consultants can be a good source of useful information, may be willing to consider the acceptance of a new consultant. However, provided the producers concerned have not had a seriously negative experience with a consultant in the past, then the building of acceptance and credibility by a new consultant in a locality will be largely dependent on how he/she approaches the job. The approaches to be used align with stages 2 and 3 discussed below.

The issue of producers' acceptance of government departments which employ extension workers is discussed in some detail by Anderson (1981). Non-government organisations which employ extension workers are commonly either industry-based or community-based and they may receive a level of government funding. Because of their industry or community linkages, these organisations may be acceptable to producers when they are set-up, but their longer-term credibility will depend on what their purposes are and how they manage their roles, responsibilities and relationships with the producers in their area. Anderson's recommendations as to how government departments may raise their credibility may also be applied, at least in a general sense, to non-government organisations.

The credibility and acceptance of a government department by the relevant public sector will depend most of all on the past experience of the public with the department's representatives. However, it is not uncommon that producers have greater trust in locally-based field staff than they have in the agency (Kelly, 2001). To ensure that there is an effective flow-on of the level of trust in field staff to the agency as a whole, the agency needs to ensure that the work of its staff is totally consistent with its overall mission and objectives. If there happens to be a noticeable inconsistency in what the field staff are doing and the purposes of the agency, it is likely that the credibility of both the staff and the agency will suffer.

Departments of Primary Industries often have a higher level of trust by landholders than do Departments of Natural Resources or Environment Protection Authorities (Kelly

2001). Most Departments of Primary Industries have a long-standing history of developing credibility with producers because of their agricultural extension and research roles, while environmental agencies have a much shorter life span and their main involvement with landholders has been regulatory rather than educational.

2.4.2 Stage 2 – Building Trust through increased Professionalism

By the 1980's there was a reasonably clear understanding of how an adviser could build credibility, and therefore, trust with farmers. This work (see, for example, Anderson 1979, 1981) also demonstrated that agricultural extension is not simply a communication process, but it is a social process involving a wide range of factors that will influence the level of credibility and trust between extension workers and landholders.

As mentioned above, the key factor in building trust is the ability of the professional extension worker to develop credibility. Developing credibility depends on the professional application of several factors including:

- being technically proficient, expert, competent;
- developing relevant practical skills;
- learning from farmers;
- matching advice to a farmer's needs/goals;
- looking at the situation from the farmer's perspective and situation (empathy);
- leaving the decision-making to the farmer;
- aiming to win the farmer's confidence;
- being an effective personal communicator with farmers and proficient in the use of all communication methods/technologies;
- respecting other people – don't talk down to farmers;
- co-operating with farmers and with other advisors/researchers when farmers will benefit;
- being available and approachable at all hours;
- being a helper; and
- being honest.

2.4.3 Stage 3 – Building Trust through appropriate Social Contact

The factors listed below may not seem important to some professionals whose work brings them in regular contact with the farm community. However, professionals who pursue them create the opportunity to build their trust with farmers to the highest possible level. These factors include:

- living in the district in which you work;
- joining in local social networks;
- getting involved with farmers, socially;
- knowing your district socially;

- dressing appropriately when visiting farmers;
- engaging in small talk (as appropriate) when visiting farmers;
- being courteous; and
- actively supporting farmers in a social context.

(Anderson, 1979).

As mentioned previously, building credibility and, therefore, trust takes time. For extension workers new to the job it may take as much as four years (Anderson, 1979) and this can only be done if the advisor remains in the same district for that period of time. While building credibility may take several years, the loss of it can occur in a short period of time and due to a relatively minor mistake.

From the above brief discussion of how an individual must go about building trust in a local community, it becomes obvious that identifying trusted intermediaries would not necessarily be a simple process. This was experienced in the conduct of this project (see discussion in Chapter 3) and, as a result, the people who were used in this role were those whom it was felt were best able to fulfil it.

3 Project Description

3.1 Initial Project Plan

The LWW had formed a partnership with the North Central CMA in Victoria and the Lachlan CMA in New South Wales so that the project could be undertaken in these areas. The aim was to involve four producer groups in the project – two in each CMA. The groups were to consist of woolgrowers who do not currently have a major focus on NRM issues. Hence the groups would probably be more focused on productivity. Such groups might include BESTWOOL/BESTLAMB groups, stud breeders, a sub-group of a farmers association branch, or a sub-group of a non-active Landcare group.

However, the crucial feature of the groups to be involved was that they each needed to have a highly trusted co-ordinator or group member who could be trained by LWW or the local CMA advisers in the key indicators of environmental health of the local district. Examples of such key indicators of environmental health which are also LWW key areas of interest are riparian health, productivity of saline lands, and the structure of stands of native vegetation.

When the highly trusted person had been adequately trained they would then, with their group, undertake a farm walk through an appropriate location in the district. The purpose of the farm walk would be to review the status of the environment on the chosen NRM topic and then hold a discussion on ‘what this means for me on my farm’. It was suggested in the Terms of Reference that the engagement of the group in this process would occur due to the credibility of the trusted member or coordinator.

While the above project description provided a plan to be pursued, it was also stated in the Terms of Reference that LWW expected that the organisation undertaking the project would contribute innovative ideas to the plan to help bolster the implementation of the project. It was also expected that the project would evolve, in consultation with staff at LWW and the CMA’s, as each of the group pilots were conducted and evaluated.

3.2 Initial Experience with Group Formation

As indicated in the initial plan, the first step in the project was to identify two groups in each of the CMAs which fulfilled the requirements of the group characteristics as outlined, and which were willing to participate in the project.

The initial investigations to identify appropriate groups indicated that in the Victorian CMA:

- there were two BESTWOOL groups, one of which was just being formed and the other was run by Jim Shovelton (a member of the project staff), so it was decided that neither of these were suitable for use in the project;
- there was a BESTWOOL group just outside the CMA boundary which was still in the process of being formed and which indicated that the members were not interested in being involved in the project at this stage;
- there was a farm discussion group in the CMA but because this group already has a major focus on NRM issues, there seemed to be no gain for anyone by involving this group in the project; and

- there were several Landcare groups, all of which are involved in at least some of the traditional Landcare programs, but none of which have a focus on the linkages between natural resource management and productivity improvement.

It was decided that the most appropriate way to proceed was to attempt to get sub-groups of two of these Landcare groups involved in the project.

It was surprising that getting two Landcare groups involved was difficult. An example of this is provided by the experience in trying to involve a sub-group of the Maryborough Landcare group. Contact was made with the local Landcare coordinator and consideration was given to six Landcare groups as potential participants. Five of these were discarded on the basis that it was felt that in each case too few members would be interested in being involved. The Maryborough group was chosen as it was felt that several of the members may be interested in being involved. The possible involvement of the group in the project was discussed at two meetings. However, after an initial positive expression of interest the group decided not to be involved. To determine the reasons why this change in the group members' views on whether or not to be involved had occurred, a telephone interview was conducted with the Coordinator. Her views on this matter were that:

- the group consists of about 20 members, most of whom are medium to small landholders, and, perhaps, because of this most of them felt there would be little benefit for them by being involved; and
- it appeared that if a needs analysis meeting was held to start the groups' involvement in the project, very few, if any of the members would attend.

After further investigations, two groups which agreed to be involved were identified – the Heathcote and Sutton Grange Landcare groups.

In the New South Wales CMA, no groups with the potential to participate could be identified. It was therefore decided to adopt a different approach in which new groups would be formed to participate in the project. Not surprisingly, this was not a straightforward process and considerable delays occurred as a few people with the potential to fill the role of a trusted intermediary attempted to form groups in each of their localities. The end result of this experience was that groups were formed in the Boorowa and Mandurama districts by an individual in each locality.

Anyone who can contact wool producers, invite them to attend a meeting for the purpose of identifying farm production issues which also affect natural resource management on their farms, and who manages to get a reasonable level of attendance at the meeting, must be trusted to some extent by the producers concerned. However, it will be the reaction of the producers to this first meeting that determines whether or not the initial level of trust rises or falls. If the producers feel the meeting was largely a waste of their time, they will walk away from it with the clearly held view that in no circumstances will they bother attending any other meetings organised by this individual. The experience of the conduct of the group meetings in NSW CMA is described in Chapter 4 and analysed in Chapter 5.

Because the groups involved in the Victorian CMA were sub-groups of Landcare groups, it was necessary to identify people who had both the potential and ability to fill the trusted intermediary role. As mentioned in the initial plan the trusted intermediary may be a group member or a group co-ordinator.

It was found to be impossible to identify groups in which an existing member could fill the trusted intermediary technical adviser role. It was also found that none of the existing producer groups which have a Coordinator employed and paid by appropriate grant funds had the crucial feature of having a Coordinator who could fill the trusted intermediary role required to enable the proposed “farm walk” group meeting to be conducted. Most group Coordinators are employed to undertake an administrative role and/or a facilitative role. The administrative role mainly involves the processes of applying for and managing funding grants to be used by the group and the facilitative role involves the process of managing discussions on matters being dealt with by the group. Group Coordinators seldom fulfil the role of providing group members with technical information.

Thus, while group Coordinators may have credibility in regard to their administrative and facilitative roles, they may have little if any credibility regarding the provision of technical advice to producers. As discussed in Chapter 2, even if an individual has the trust of those with whom he/she works for the roles that are already being fulfilled, this does not mean that such trust will occur immediately in regard to a new role, especially if it is a technical advisory role. Because the two Victorian groups were only sub-groups of Landcare groups, it was decided to identify two people, each of whom could fill the role of a trusted intermediary with each of the groups. However, it was soon found that it was not possible to identify technical advisers who had the necessary experience with either of the groups to fill the trusted intermediary technical adviser role.

Given what was learnt about identifying prospective participating groups and, the difficulty in identifying those people who could fill the trusted intermediary technical adviser role, it was decided that it was necessary to make the following changes.

The main change was to cease trying to identify groups which already had a close working relationship with someone who could fill the trusted intermediary technical adviser role which was a requirement of the Terms of Reference. This meant that the plan to train the trusted intermediaries to conduct a farm walk covering a range of NRM issues for a group was dropped and was replaced with the trusted intermediaries being used solely as Trusted Intermediary Facilitators (TI Facilitators). If the group required technical information/advice, this would be provided by Specialist Presenters who are experts in their field. The second and related change was that, because it was difficult to identify groups willing to be involved in the project, it was decided to identify groups which did not currently have a major focus on NRM issues which are closely linked to on-farm productivity. This meant that in the Victorian CMA it was possible to work with sub-groups of particular existing Landcare groups, while in the N.S.W. CMA it was decided to identify an individual who believed he/she had the ability to form a group of farmers, in his/her locality, whose major focus was on productivity rather than NRM issues. Using these different approaches in each of the CMA's would enable useful comparisons to be made between the outcomes of the activities undertaken by each of the groups.

3.3 Revised Operational Plan

Given the necessity to make these changes, the following operational plan was developed.

In the Victorian CMA:

- identify two Landcare groups in which 10-12 members are willing to participate in the Project; and
- identify for each of these groups an individual who is able and willing to fill the role of a TI Facilitator.

In the N.S.W. CMA:

- identify two people who appear to have the ability to form a group of producers in each of their own localities; and
- when the groups have been formed, the two who formed them well undertake the role of TI Facilitator of their group in the follow-up activities.

In both CMA's, following the identification or formation of the groups:

- working with the TI Facilitator of each group, organise group meetings for the purpose of determining the management issues of concern in regard to both productivity and natural resource management;
- assess the group members experience of this meeting through telephone interviews with each of them;
- working with the TI Facilitator of each group, organise a farm walk in which the major issue of concern can be addressed;
- assess the group members experience of the farm walk through attending the activity and by telephone interviews with each of them a week or two later;
- based on the experience gained in conducting all of the group meetings, develop a set of guidelines for identifying the required characteristics of TI Facilitators and conducting group meetings;
- prepare a draft report of the project; and
- following the review of the draft report by LWW staff, prepare the final report and meet with LWW staff for final debriefing.

3.4 The Groups Participating in the Project

The two groups in the Victorian CMA were sub-groups of the Heathcote and Sutton Grange Landcare groups. In the case of the Heathcote group, the majority of its members are not full-time primary producers. As a result it was difficult to get a sufficient number of the members to attend each of the meetings. However, even though about half of the members of the Sutton Grange group are full-time primary producers, again it was difficult to get a sufficient number of the members attending the meetings. It appeared that there may be several reasons for this low level of attendance and these are discussed in Chapter 5. The TI Facilitators used with each of these groups were both farmers who had no prior experience in working with these particular groups, nor did they live in the same district as the group's members. While the farmer who filled the role of TI Facilitator with the Sutton Grange group had considerable experience as a group facilitator, the other TI Facilitator had no such experience.

The experience with each of the groups in the N.S.W. CMA was vastly different. In the case of the Boorowa group a sufficient number of producers attended each of the meetings. While three of the producers who attended the needs analysis meeting were not able to attend the farm walk meeting, the TI Facilitator invited some other producers to the second meeting, all of whom attended. The TI Facilitator of the Boorowa group was a local farmer.

The other N.S.W. group was formed by a locally-based Agronomist in the Mandurama district. Only six of the twelve producers invited to attend the needs analysis meeting actually attended it, and then only two of these attended the second meeting. However, those who did attend the second meeting thought that it was very good and would like to attend a follow-up meeting at which a related topic could be addressed.

A detailed account of each of the group's experiences with the needs analysis meeting and the follow-up "farm walk" meeting is provided in Chapter 4.

3.5 Brief Discussion of the Factors causing Delays in the Project Schedule

There was a delay in getting the project started due to the need to effect the changes to the project plan which have been described above. However, even with these changes made, the project still proceeded far more slowly than was originally anticipated. This was due to the continuing difficulties encountered in identifying those who could fulfil the role of a TI Facilitator, and in identifying groups willing to participate. There are a number of reasons for these continuing difficulties.

A logistical issue is whether to organise trusted intermediaries and farmer participants simultaneously or sequentially. While it might be feasible in a full scale program to pursue as many trusted intermediaries and participants as possible, in the knowledge that there will be a significant refusal rate, this has not been appropriate in this pilot project, as we did not wish to be in the position of turning down those who had agreed to involvement. Consequently, only four lines of inquiry have been pursued simultaneously, with new lines being commenced after receiving a refusal to be involved. From the experience with this project, it is recommended that at least four weeks be allowed to identify and obtain agreement from trusted intermediaries and participants. This provides sufficient time for information to be circulated and for potential participants to consider whether they will be involved. If the identification process is to work solely through the meetings of an existing farmer group, it could take considerably longer than four weeks.

As is the case with most farmer group formation processes, drought can be a disincentive, particularly for graziers, who may have substantial amounts of their time tied up in hand feeding livestock. The mental depression that some people suffer in periods of drought is also a disincentive to group involvement, even though group participation can have therapeutic value in such circumstances. The impression gained from a number of people approached in the identification stage for this project was that the current drought in southern New South Wales was affecting people's willingness to be involved in group activities. In addition, it appears that drought management as an extension topic has been 'done to death' in the area, so that choosing a natural resource management topic related to drought management would be unlikely to increase the level of interest.

While it was expected that using sub-groups of existing Landcare groups in the Victorian CMA would expedite the identification stage of the project, this generally

required third parties, such as group chairpersons or coordinators, to undertake the task of the initial selling of the Project to groups with the potential to participate. Unfortunately several of these third parties only had a limited understanding of the purpose of the Project which meant they had some difficulty explaining the proposal to their group members. Consequently, some groups may have been unsure of the benefits for them of involvement and decided not to take part. Related to this is the issue of group fatigue, which limits the number of group activities in which farmers are willing to participate. Again, the impression gained from people approached in the identification stage of the project was that, with the number of group-based extension programs currently in operation in the two study catchments, some potential farmer participants felt that they did not have time for further group involvement.

While it was decided that it was impossible to identify trusted intermediaries who could fulfil the role of a technical adviser, it was also found that it may be necessary to provide training for the TI Facilitators in group facilitation skills, especially those skills required to run a needs analysis meeting.

3.6 Conclusion

Several difficulties were encountered in getting the Project started which meant that it was necessary to make some changes to the Project plan. However, even having made these changes, there still remained some difficulties in conducting the Project. These difficulties are referred to and discussed in the following Chapter.

4 Description and Assessment of Group Activities

4.1 Introduction

As mentioned previously, each of the groups involved in the project met twice – the first was a needs analysis meeting and the second an activity meeting based on the main issue identified in the needs analysis meeting.

Following each meeting the group members were interviewed by telephone to determine their assessment of how effective the first meeting was and how beneficial the second meeting was in providing them with information that they could apply in managing their own properties and enterprises.

In the remainder of this Chapter a description of the meetings held and the results of the telephone interviews conducted are provided on a group by group basis.

4.2 Heathcote

As mentioned previously the Heathcote group is a sub-group of the Heathcote Landcare Group.

4.2.1 Needs Analysis Meeting

The needs analysis meeting which was organised by the Chairperson of the Landcare group was held on May 9th. The person who was used as the Trusted Individual Facilitator is a farmer who is not a member of the Heathcote Landcare group but his property is located in a nearby district. While none of the Heathcote members actually knew him personally, several of them had heard of him as he has a reputation of being a progressive and effective primary producer. This meant that he had a degree of credibility with some of the group members which, it was felt, would enable him to fill the role of Trusted Individual Facilitator. However, as mentioned below, his inexperience as a group facilitator did make it difficult for him to conduct the needs analysis meeting.

To assist the facilitator in conducting the meeting Jim Shovelton (project staff member) gave an overview of the project and set the context for the needs analysis. This analysis was conducted by asking the participants to write on a card the major issues of concern to them as farmers from both environmental and productivity perspectives. The issues raised were then listed and those over which the project could have no influence were deleted (e.g. poor roads). The remaining items were then amalgamated to give a list of three or four issues. These were discussed and consensus achieved as to the highest priority. The issue of highest priority in NRM was ‘soil health’ and the priority for productivity was improved pasture productivity.

It was agreed that the basis for high pasture productivity was a ‘healthy’ soil. The key soil issue they wanted to address was the interpretation of soil tests. As a follow-on, the group then wanted to look at a property that was using conventional farming methods (e.g. fertiliser, improved pastures) and a property that was using alternative farming practices.

4.2.2 Assessment of the Needs Analysis Meeting

Only five members (four businesses) of the Landcare group attended the needs analysis meeting. Telephone interviews were undertaken with the chairperson of the Heathcote Landcare group and another member of the group. There had been some discussion amongst group members about the needs analysis meeting, so these two group members were able to provide what could be regarded as a consensus assessment of the needs analysis meeting.

As mentioned in section 3.5, working through existing groups requires that the purpose of the needs analysis meeting and subsequent activity has to be explained to prospective participants by the coordinator or chairperson of the existing group. This person may not be able to provide potential participants with a clear understanding of the rationale for the program and the benefits for them in participating. The evaluation interviews confirmed that some participants at the Heathcote group needs analysis meeting may not have had a clear understanding of the purpose, and benefits for them, of participation in the project. It was also confirmed that the low attendance at the meeting was in part due to people not having a clear understanding of the purpose of the meeting. The assessment of those interviewed regarding how well the Trusted Individual Facilitator had managed the meeting was very favourable. Because he is a well-respected and progressive farmer, it was felt that he had a very positive influence on the proceedings of the meeting. For example, in the opinion of the group chairperson, he encouraged frank and honest expressions of views about natural resource management and production issues, which allowed the group to settle on an activity that was considered to be of interest and relevance to their farm businesses. In the opinion of the group chairperson, this would not have occurred had the meeting been attended by a representative of a CMA or State natural resource management agency. In this sort of situation the discussion would have been coloured by group members' beliefs as to what the agency representative would like to hear. The important issue arising from this assessment of the Heathcote meeting was the need to provide a much clearer explanation of both the purpose of the Project and, therefore, the purpose of the needs analysis meeting. It was decided that, at the needs analysis meetings of the other three groups, a clearer explanation of the purpose of the meeting must be given to the group members.

4.2.3 Conduct of the Farm Walk Meeting

The producers who participated in the needs analysis meeting decided that they would like to visit Terry Simpson's property at Winjallock to have the opportunity to view the land restoration and pasture development program that has been undertaken on the property during the past 40 years. In addition, it was also arranged that Andrew Speirs, a Field Research Agronomist with Hi Fert, would attend the farm visit as well, for the purpose of leading a discussion on interpreting soil test results. This activity was held on Wednesday, 5th July, and was also attended by a staff member from the Institute for Rural Futures (IRF). The purpose of the attendance of the IRF staff member was to undertake a first-hand assessment of the activity, and this is provided below.

The farm visit was very successful with eight members of the Heathcote group in attendance. The first hour was spent on the discussion led by Andrew Speirs on soil tests. This discussion consisted of two parts. The first part dealt with collecting soil samples for testing and the second part was on interpreting soil test results.

The discussion on collecting soil samples was quite detailed as several of the group members asked questions, many of which seemed to imply that they intended to collect samples for testing in future. It appeared as though only one of the group members had any experience with having soil tests conducted previously. One of the points discussed at some length was that it is useful to have a series of soil tests done on particular areas over several years so that the results could be compared. Any changes in the results can be considered in relation to both the fertiliser and liming programs, as well as the general management of the pastures and land.

An example sheet providing the results of the analysis of a soil sample was used as a basis for this part of the discussion. The Presenter provided a thorough explanation of the results and there were questions from group members seeking clarification of some issues. Because interpreting the results of soil tests is very technical, it seemed that towards the end of this discussion some of the participants were having some difficulty in keeping in mind all of the matters that had been covered. However, it appeared that most of the participants were convinced that it would be worth doing soil tests on their properties on a more regular basis.

In describing the land restoration and pasture development work the Simpsons have done on their Winjallock property, Terry made use of a set of large colour photographs. Having looked at the photographs and discussed them, it soon became clear which parts of the property the group wished to see. Terry then took them on a farm tour so they could see first-hand several of the land restoration practices that have been used on the property. As the improvements resulted in increased wool and stock sales, the Simpsons were able to buy additional farm land which also required restoration. A property beside the Simpson's farm is very degraded and it provided the Heathcote group with an example of what parts of the farm had been like before the various restoration practices had been applied (*Figure 4.1*). On several parts of the property, the increase in carrying capacity has been as high as 500 per cent following the land restoration and pasture improvement. A key objective of the land restoration and pasture improvement was to reduce run-off. The aim has been to keep every drop of rainfall where it falls. With the improvement in water infiltration rates, there has been a reduction in sharp run-off pulses following rainfall events and therefore a reduction in the sediment supply to local streams. With vigorous winter-active pastures, this increased infiltration should not contribute significantly to groundwater accessions.

An important issue that Terry Simpson discussed with the group was that Landcare should focus more on farm production and productivity. While activities such as community tree planting, remnant vegetation protection, wetland establishment and some weed and rabbit control programs are important, it is the broadacre landcare solutions in Terry Simpson's view that are the key to improving farm productivity. Unfortunately, this aspect of Landcare seldom receives much publicity.

It is difficult to determine whether the views of those attending the farm visit were influenced by this opinion expressed by Terry Simpson. The program followed by Heathcote Landcare has a classic environmental orientation and it is not easy to re-orient the program towards productivity oriented natural resource management for the following reasons.

The majority of the members of Heathcote Landcare are not full-time primary producers and, partly due to this, their landcare orientation tends to be mainly environmental. None of these members participated in the needs analysis meeting conducted in this pilot project nor did they attend the farm visit to Simpson's property.

Figure 4.1 View of Terry Simpson's property with the edge of the neighbouring property in the foreground.



The other major factor influencing the landcare orientation of the members is that the available funding for activities undertaken by all Landcare groups tends to be environmentally-orientated with little account taken for productivity – enhancing landcare activities.

Overall the group members appeared to have gained a lot of useful information from this farm visit. The Specialist Presenters, Andrew Speirs and Terry Simpson, did not require the assistance of the group facilitator to get the group members involved in discussions. Hence there was very little that the Trusted Individual Facilitator had to do to ensure effective discussions occurred. Fortunately, the Facilitator appeared to recognise this and, as a result, did not interfere with the discussion by attempting to guide it in a different direction from what was clearly of interest to participants.

4.2.4 Results of Interviews with Heathcote members attending the Farm Walk Meeting

All of the members who attended the farm visit were interviewed by telephone, one to two weeks after the meeting. This delay between the activity and the evaluation

interviews gave the respondents time to reflect on what was covered and, how useful and worthwhile was the activity.¹

All of the group members who attended the farm visit thought that it was very worthwhile even though the total travel time for each of them was at least 4 hours. They were all very impressed with Terry Simpson and with what the Simpsons have achieved in land restoration and improved pasture development. While there is degraded land in parts of the Heathcote district, none of the members who attended the farm visit own any of this land. Hence, while they were very impressed with what the Simpsons have done, much of what was discussed at the farm visit did not appear to have direct application to their own farms.

The members found the discussion of soil tests and interpreting the results very useful and it appeared that at least some of them would start having soil tests done on their own properties, and use the results to guide their fertiliser applications. The presentation by Andrew Speirs was very well accepted by the group.

It was quite clear that Terry Simpson had a high degree of credibility with the group even though none of them had met him previously. This credibility was based on the fact that he could show the group what he had achieved and, very fortunately, an adjacent property with a paddock of degraded land provided the group members with a very clear picture of what most of the Simpson's property was like prior to its restoration and development. They, therefore, had before them both "before" and "after" examples of what had been done.

All of the members said that they would certainly be interested in attending a follow-up meeting if it was possible for one to be organised.

4.3 Sutton Grange

The Sutton Grange group is a sub-group of the Sutton Grange Landcare group.

4.3.1 Needs Analysis Meeting

The needs analysis meeting was held on 21 June. Based on the experience gained in conducting the Heathcote needs analysis meeting, particular care was taken in this meeting to ensure that the participants had a clearer understanding of the purpose of the project and of the needs analysis meeting.

The natural resource management issues identified by the participants are presented in Appendix 1.

It was considered by the group that there were two general themes underlying these issues, and these were soil fertility and optimal management of climate variability and seasonal conditions. The group chose soil fertility as the topic to be covered in their "farm walk".

The Trusted Individual Facilitator was a farmer from the Shepparton area who has been involved as a facilitator of two BESTWOOL groups. However, none of the Sutton

¹ The method used in conducting all of the telephone interviews was based on the Reflective Appraisal of Programs (Bennett, 1981).

Grange group either knew him personally or even knew of him prior to the needs analysis meeting.

4.3.2 Assessment of the Needs Analysis Meeting

As mentioned above, more care was taken at this meeting than had been taken at the Heathcote meeting to explain the purposes of the project. However, one of the meeting participants reacted very negatively to this. He was very opposed to being used as a “guinea pig” and he had a lot to say on this issue. Fortunately, most of the other participants did not actively support this view.

A sample of the group were interviewed by telephone to determine their views on the needs analysis meeting. It appears that there was a degree of scepticism at the meeting, mainly because some wool producers are not in favour of AWI spending any of its money on anything other than promoting wool. In addition, because the outcome of the meeting was to focus on soil fertility, there was a feeling on the part of some participants that because there was already plenty of information available on this matter, why bother spending time on a needs analysis process which resulted in identifying it as the key issue.

However, the other members of the group thought that the needs analysis process worked well, and the matters identified were important to them. It also appeared that the Trusted Individual Facilitator was well accepted by the group as he is someone with whom the group members can identify (because he is a wool producer).

4.3.3 Conduct of the Farm Walk Meeting

The farm walk meeting was held on the property of Tom James who is the chairperson of the Sutton Grange Landcare group. At the farm walk meeting the participants had the opportunity to inspect two pasture paddocks – one in good condition and one which may need to be resown.

Two Specialist Presenters – Sara Hill, a Field Research Agronomist with Hi Fert, and Reg Hill, a Research Agronomist with Wrightsons Seeds, were invited to the farm walk meeting to present information on soil testing, managing soils in pasture areas, and pasture management.

The Trusted Individual Facilitator, Greg Smith, who had conducted the needs analysis session undertook the role of facilitator at the farm walk to ensure there was effective discussion between the group members and the Specialist Presenters. The activity was also attended by an IRF staff member for evaluation purposes.

Only seven members of Sutton Grange Landcare attended the farm walk. Three of the members who attended the meeting in which the needs analysis had been conducted were not present at the farm walk, while three members who had not been at the needs analysis meeting did attend the farm walk.

The meeting was held in two pasture paddocks on the host property. The first of these paddocks was resown only a couple of years ago and is an excellent pasture consisting of Phalaris and Sub-clover. The second paddock is a much older pasture, again with Phalaris and Sub-clover as the main species sown, but with other species, especially Silver Grass, beginning to dominate the pasture.

The first part of the presentation/discussion was on soil testing and it was led by Sara Hill. The issues covered were soil sampling, soil components, soil pH, major nutrients, trace elements, and interpreting test results. An example test result sheet was handed out to the group members and this was used to support the discussion on interpreting results.

The questions asked by the participants in regard to soil tests were somewhat limited and the discussion moved on to pasture fertiliser applications as questions were raised on this issue. During this discussion Reg Hill became involved in responding to some of the questions raised by the group members, and this opened the discussion on pasture management.

There were lengthy discussions on the use of various fertilisers on pastures and also lime application as many of the soils in the Sutton Grange area are quite acidic. In these discussions the property owner provided information on the lime and fertiliser treatments of the high quality pasture area in which the first part of the meeting took place.

The discussion then moved on to describing the perennial grasses suitable for the district, mainly Phalaris and Cocksfoot, and the range of varieties of these species that are currently available. The advantages and disadvantages of each of the species, especially in regard to the amount and quality of feed produced, was discussed in detail.

The property owner provided a detailed description of the pasture re-establishment procedure that had been followed in the paddock where the meeting was held. This re-establishment procedure extended over a couple of years in an effort to reduce the weed population. Reg Hill then described a range of pasture establishment techniques that may be used.

Two other matters that were discussed were pasture grazing management and limiting water run-off from pasture areas. In regard to grazing management Reg Hill said that the relevant research results indicated that rotational grazing using 3-4 paddocks gave the best results in limiting weed infestation and improving dry matter yield. Provided it was not necessary to move the stock too frequently, their performance was similar to that achieved with continuous grazing.

The main factors in limiting run-off with perennial pastures were maintaining ground cover and a couple of inches of pasture grass height. New pasture paddocks tend to have less run-off than old paddocks as the rate of water penetration slows as the soils are compacted due to grazing stock. The use of rotational grazing should help to limit the degree of soil compaction over time. While it may be the aim to limit the amount of run-off from pasture areas, in the Sutton Grange district some run-off is required to maintain dam water supply for stock.

In the second paddock inspected during the farm visit there were still adequate amounts of Phalaris and Sub-clover though Silver Grass was beginning to dominate some parts of the pasture. Reg Hill recommended that the paddock be "winter cleaned" using appropriate chemicals.

Overall it appeared that those who attended the farm visit has gained a lot of information on the topics covered. The questions asked indicated that the presentations were of considerable interest to them. Facilitation of the discussion was very well handled by Greg Smith who ensured that the participants remained involved by asking them questions from time-to-time to obtain their views and/or experience on the

particular topic being covered in the presentation. Both of the Specialist Presenters were highly proficient in regard to the topics they presented and they were also very effective in leading the discussion.

There was, however, one issue that needed to be explored with the Sutton Grange group members when they are interviewed by telephone a week or two following the farm visit meeting. This issue is that at the needs analysis meeting the group chose soil fertility as the topic to be covered in their group activity. Certainly soil fertility was covered in the meeting but the majority of the time was spent on pasture management. The important issue is whether the amount of time spent on pasture management was what they expected to happen at the group meeting.

4.3.4 Results of Interviews with the Sutton Grange Members who attended the Farm Walk Meeting

Most of the producers in the Sutton Grange district have been working on developing sustainable farming systems during the last 20 years or so. These systems include making sure that fertiliser applications ensure maintenance levels of plant nutrients are achieved on a year-in, year-out basis, and that pastures are managed in a way to retain the highest possible levels of soil moisture. In addition, most gullies have been both fenced-off and “treed-off” and there are very few, if any, serious soil degradation problems occurring in the Sutton Grange district. There is, however, a continuing problem in regard to the need to raise the pH of soils through lime application. Most of the time many producers have difficulty allocating funds for the purchase and application of lime, given its high cost. As a result, soil acidity is likely to be an on-going problem in the Sutton Grange district.

The results from these interviews varied somewhat between the members. For example, while all of those who attended the farm walk found it very useful in terms of the information they obtained from it, two of them also had some negative comments. One of these was that as far as this particular producer was concerned, what was covered in the farm walk was not what he expected to be covered based on his interpretation of the purpose and outcomes of the needs analysis meeting. He thought that the purpose of the farm walk was to identify local district problems affecting productivity and NRM and to develop suggestions on how these problems might be overcome. He presumed that this information would then be passed on to relevant NRM organizations and government departments. Clearly he found the needs analysis process conducted at the first meeting a little confusing. However, he did think that the farm walk was worthwhile, and he was not disappointed that he had taken the time to attend it. The other important point he made was that he felt genuine producers think that environmental problems are important and that they are willing to spend time trying to overcome them.

The other negative comment by another producer was that he was surprised that the other producers who attended the farm walk appeared to have little knowledge of the topics covered at the meeting. This producer is not a member of the Sutton Grange Landcare group but is the chairperson of a neighbouring Landcare group and his property is located about 20 kilometres from Sutton Grange. However, even though he said he was well aware of most of the information covered in the meeting, he still found the meeting to be very worthwhile.

Overall the participants felt that the farm walk meeting was worthwhile and they were impressed with the usefulness of the information covered by the two Specialist Presenters. Unfortunately, however, only one member of the Sutton Grange group indicated an interest in the group continuing to meet to cover specific topics, if only for a few times each year.

4.4 Boorowa

The Boorowa group was formed by the Trusted Individual Facilitator who is a farmer in the Boorowa district.

4.4.1 Needs Analysis Meeting

Eight producers attended this meeting which was held on July 5th. The format followed was similar to the previous meetings, but unlike those meetings, it appears to have worked quite well, with good interaction between the participants. Compared to the Victorian groups there appeared to be less of a focus on productivity and profitability.

The major topic raised again was understanding soils and their management. The second most discussed topic was native grass management. There was a general consensus that tree planting was no longer a high priority issue amongst most primary producers.

The full range of issues identified by the participants are provided in Appendix 1.

4.4.2 Assessment of the Needs Analysis Meeting

A sample of those who attended the needs analysis meeting were contacted by telephone to obtain their views on whether they thought it was worthwhile.

In contrast to many of the comments received on both the Heathcote and Sutton Grange meetings, most of the comments received from the Boorowa group were quite positive. Clearly one of the factors which influenced this outcome is that, even though this was the first time they had got together as a farmer group, they all get on very well with one another. The reason for this appears to be that most of them have regular social contact. It also appeared that the TI Facilitator handled the meeting well and was well accepted in this role by the group.

Three of the eight producers who attended the needs analysis meeting did not attend the farm visit meeting which was held on August 21. This delay between the two meetings occurred as the result of trying to find a time for the second meeting that suited all of the prospective participants, as well as the two Specialist Presenters.

4.4.3 Conduct of the Farm Walk Meeting

As mentioned above, the main purposes of the meeting were to address the two issues of managing soils to maintain fertility and managing native grass pastures. The orientation of the presentations at the meeting was to deal with these issues in relation to productivity/profitability, sustainability, and minimising any off-farm environmental effects resulting from on-farm practices. Ten producers from the Boorowa area attended the meeting as well as the Trusted Individual Facilitator. An IRF staff member also attended the meeting.

The first half of the meeting was held in a paddock on the property of one of the group members. The TI Facilitator opened the discussion by inviting the property owner to describe what had been done in the paddock during recent years. The owner provided a description of the cropping program undertaken in the last ten years, including fertiliser and lime treatments. The paddock had then been resown to introduced perennial pasture species in 2005. The owner also described the stocking rate used on the new pasture, and the fertiliser top-dressing rates and fertiliser types being used.

The Specialist Presenter, Richard Simpson, CSIRO Research Scientist, responded to parts of the paddock treatments described by the owner, and this opened the way for him to lead the discussion on soil tests and treatments to maintain fertility. In discussing soil management practices, Richard Simpson regularly referred to the likely financial return that could or should be achieved as well as the likely environmental impacts of the treatment. The topics covered in the presentation included the following.

There has been a recent change in the recommendations for conducting soil tests. Until a few years ago it was generally considered that taking samples for testing every few years and preferably from most paddocks was the most effective way to monitor soil fertility on a farm. However, recent research suggests that it is better to conduct soil tests each year but only on a few representative paddocks or soil types. The samples need to be collected at the same time and in the same way each year, and, preferably, when the soil is in a similar condition to what it was in previous years.

The next part of the discussion then dealt with interpreting soil test results. The main results referred to were pH, Phosphorus (P), Sulphur (S), Potassium (K) and Aluminium (Al). Following the discussion of soil test results, fertiliser treatments required (indicated by soil test results) to maintain fertility were discussed. The main part of this discussion was on P treatments including a thorough description of the P cycle, which included a description of the “lock-up” of P in Australian clay soils. It was generally recommended only to use maintenance dressings of P, with the amount required being determined by the results of the Colwell Phosphorus Soil Test. Higher applications in the Boorowa/Yass area are unlikely to provide a sufficient financial return to cover the extra cost of fertiliser and more P will probably be lost in run-off, with potentially negative environmental effects on streams and rivers.

While Boorowa soils are generally quite acid, there is seldom any pay-off to applying lime to established pastures in terms of increased production. It may be beneficial, however, to apply lime when pastures are being resown as an important effect of this treatment is to improve soil health, especially soil biology.

There were only brief discussions on S, K, and Al, but the point was made that deficiency of S or K or toxicity of Al seldom requires treatment in the Boorowa/Yass area.

Throughout the presentation, all of which was supported with charts showing the results of relevant experimental work, the group members asked questions and there was very little need for the Trusted Individual Facilitator to do anything to manage the discussion. The regular references by the Specialist Presenter to both profitability and environmental impacts in relation to the soil elements discussed ensured the original objective of the meeting was met.

The second part of the meeting was held on the Bookham Grazing Demonstration Site and the Specialist Presenter was Phil Graham, N.S.W. D.P.I., District Livestock officer.

The demonstration, which commenced in 1993 has provided information on two important issues in fine wool production. These are:

- whether it pays to put superphosphate out for fine wool production; and
- whether regular superphosphate dressings on native pastures will result in improved pasture performance.

The demonstration consists of an original native pasture paddock, which was divided into two at the start, with one half regularly receiving superphosphate, while the other half receives no fertiliser. Records of yearly income and costs have been analysed and each year assessments have been made of pasture composition in each half of the demonstration paddock. These results show the financial gains to be made by using superphosphate on native pastures and that the composition of the native pastures does not change provided only maintenance level dressings are used. All of these issues were covered in the discussion led by the Specialist Presenter. The group members inspected the pastures in each half of the demonstration, assessed the condition and general health of the sheep and raised a number of questions on what had been done and achieved in the demonstration. Overall it appeared that all of the group members felt that the time spent visiting the grazing demonstration was worthwhile. Again the Trusted Individual Facilitator did not have to make any significant contribution in managing the group discussion.

4.4.4 Results of Interviews with Boorowa Group Members who Attended the Farm Visit Meeting

All of the producers who attended the farm visit meeting were contacted by telephone one to two weeks after the meeting.

All of them said that they thought the meeting was very good and that they had gained a lot of useful information from it. About half of the group members had already decided to make some changes to some of the factors making up their management of soil fertility on their own farms.

Most of the participants referred to each of the following issues during the telephone interview.

- The strategy suggested in relation to the collection of soil samples for analysis.
- The information on applying the use of the Colwell P index in determining application rates of phosphorus fertilisers.
- Information on P effects on the environment and how to manage the use of phosphorus fertilisers to reduce these effects. Several of the group members said that this was very useful information of which they had not been aware.
- The Bookham Grazing Demonstration confirmed much of what most members were already doing in managing their own native pastures.
- The Demonstration provides clear evidence of the benefits of P for native species and creates the opportunity to get clover established in native pastures.

Other matters which were mentioned by one or two of the respondents included the following.

- It appears that several of the practices discussed that can improve productivity may also have a positive effect on environmental outcomes.

- The information on the P cycle was very useful.
- Refreshing to hear a Scientist's point of view which is unbiased.
- Many of the matters discussed will lead to increases in carrying capacity.
- Managing native pastures to increase productivity is not relevant to my situation – it is far better to replace native pastures with improved pastures.

All of the group members said that they thought the Trusted Individual Facilitator had done an excellent job and all of them would be keen to participate in any follow-up meetings if they could be organised.

4.5 *Mandurama*

Again, a slightly different approach was used to organise this group and to conduct the needs analysis meeting and the follow-up activity meeting. The original plan was that a consultant based in Bathurst would fill the role of the Trusted Individual Facilitator at each of the meetings. However, because the Consultant was not well known in the Mandurama district, a locally-based agronomist who works for a rural supplies retailer was asked to identify prospective participants and invite them to the first meeting.

4.5.1 *Needs Analysis Meeting*

A total of 12 producers were invited to the first meeting but only half of them actually attended it. As was experienced with the Victorian groups, using a third party to invite producers to the first meeting was not perhaps the most effective way of achieving their attendance.

The needs analysis meeting of the Mandurama group was held on August 8. The detailed results of the meeting are provided in Appendix 1. In the discussion of the issues raised, a common theme that emerged was the sustainable management of pastures in what seemed to be an increasingly variable climate. The specific matter of concern was how to determine the optimal stocking rate that would ensure the maintenance of profits, but at the same time preserving the quality and composition of the existing pastures.

It was agreed that one way of addressing this issue was to apply relevant data from local farms in the Grassgro Model and to assess the outcomes of this at the next meeting. Each of the participants was asked to provide the necessary data required to conduct the modelling exercise.

4.5.2 *Assessment of the Needs Analysis Meeting*

A sample of those who attended the needs analysis meeting were interviewed by telephone to obtain their views on both the conduct and outcomes of it. All of those interviewed made two main points which were:

- the meeting was too long, given what was covered and achieved; and
- several of the participants were quite confused and completely dissatisfied with the experience, and it appeared likely that they wouldn't bother attending the follow-up meeting.

While there were no particular views expressed as to why the meeting took so long, there was the general view that it could have been completed in half-an-hour, rather than 1½ to 2 hours.

4.5.3 Conduct of the Follow-up Meeting

The follow-up meeting was held in the evening of September 14, in a meeting room in Mandurama. Only three producers (two businesses) attended the meeting. The Specialist Presenter led the discussion of the results obtained from the modelling exercise regarding the management approaches to be used to achieve both the effective utilisation and sustainability of pastures. Because only those who attended the meeting had provided data for use in conducting the modelling exercise, the Specialist Presenter had made use of a generic data set applicable to the Mandurama district.

Several issues were discussed during the meeting including the following.

- Determining the optimal stocking rate with the aim of avoiding the risk of overgrazing pastures which will result in a loss of ground cover and increased water run-off.
- The relationship between stocking rates and livestock production weights and turn-off weights.
- Comparing the performances of sheep and cattle under varying conditions (rainfall and pasture performance) by means of gross margins data.
- The environmental impacts of various management systems and their effects on gross margins.
- Determining the proportion of the area of introduced pasture which it pays to re-sow annually. The producers who attended the meeting referred to this issue in some detail in the telephone interviews. They were obviously very impressed with the information provided on the costs and returns of resowing pasture areas and this will no doubt have an influence on how they manage this issue on their own farms in the future.

4.5.4 Results of Interviews with the Mandurama Group Members who attended the Follow-up Meeting

As mentioned above, only three producers from two businesses attended this meeting. It may have been unfortunate that no attempt was made to invite some other producers to the meeting who had not been contacted in relation to the first meeting. However, because several of the producers who attended the first meeting were very dissatisfied with it, it probably would have been difficult to get any others involved.

Both of the producers interviewed felt that the meeting was very worthwhile. They each felt that they had gained a lot of very useful information, most of which they would utilise in managing their own properties. As mentioned above, the most useful information obtained was on the costs and returns associated with the frequency of resowing improved pasture areas. As one of the respondents explained, the production of good and bad pastures will vary significantly in both good and bad seasons. For example, in dry times, bad quality pastures will probably produce hardly any feed, while good quality pastures will continue to produce some feed.

Finally, both of the respondents said that they felt the meeting would have been better if more producers had attended it. With more producers present more ideas will be put forward to broaden the discussion.

5 Assessment of the Trusted Intermediary Process

5.1 Introduction

This chapter uses the experience gained in the project to answer the questions in the Terms of Reference. This experience is based on the formation of four groups and the running of one group activity with each group. The four groups were formed in different ways (Table 5.1), but these do not necessarily cover all the possible ways in which groups with a trusted intermediary might be formed.

Table 5.1 Summary of group details relating to TI Facilitator, group formation, needs analysis meeting, Specialist Presenters and group activity.

Group Details	Group			
	Heathcote	Sutton Grange	Boorowa	Mandurama
Position of TI Facilitator.	Respected farmer from nearby area.	Farmer/facilitator from nearby area with group facilitation experience.	Farmer from the area with some background in extension	Consultant from nearby area
Group recruitment by:	President of Heathcote landcare group.	President of Sutton Grange landcare group.	President of local farmer group sent out notices seeking expressions of interest. TI Facilitator organised meeting from contact list.	Agronomist with rural merchandise retailer provided initial list. TI Facilitator and Jim Shovelton phoned producers to invite them to the needs analysis meeting.
Extent of group members' previous social interaction.	Medium	Medium	High	Medium
Group members already members of other groups?	Yes, members of Heathcote landcare group.	Yes, members of Sutton Grange landcare group.	No	No
Needs analysis meeting run by:	TI Facilitator and Jim Shovelton.	TI Facilitator and Jim Shovelton.	TI Facilitator and Jim Shovelton	TI Facilitator and Jim Shovelton.
Selection of Specialist Presenters by:	TI Facilitator and Jim Shovelton.	TI Facilitator and Jim Shovelton.	TI Facilitator and first Specialist Presenter.	Jim Shovelton
Position of Specialist Presenters.	Farmer well known in landcare movement and Hi-Fert field rep.	Researcher with Wrightson's Seeds and Hi-Fert field rep.	NSW DPI Livestock Officer and CSIRO researcher.	TI Facilitator
Group facilitation at activity by:	Specialist Presenters	TI Facilitator	TI Facilitator	TI Facilitator

The questions in the Terms of Reference are as follows:

- Can a process of engaging woolgrower groups through the use of a trusted member or coordinator be utilised to stimulate a wider interest and involvement in LWW's NRM issues?
- What will encourage the trusted individual to be involved?
- Does this process quickly assess where growers are starting from on NRM issues?
- Is the process transferable from group to group with different characteristics?
- How have the group members and the trusted individual benefited from the process?
- What are the recommendations for LWW and the wool industry on the "dos" and "don'ts" of undertaking such a process? and
- Is this process likely to be transferable to other groups and issues facing the NRM issues of farming in the future?

The answer to most of these questions is "yes", but with a considerable number of qualifications.

This chapter also describes the process to be followed in developing a group structure using the trusted intermediary process. The main framework used in this chapter is the description of the recommended process to be followed and the above questions are referred to and answered at appropriate places in this framework.

The process to be followed in establishing and running producer groups for the purpose of engaging more woolgrowers in considering and adopting the types of practices developed in LWW Program consists of the following steps:

- preparatory publicity;
- selection of TI Facilitators;
- group formation;
- development of group program;
- expansion of group size; and
- split groups if, and when, required.

This sequence of steps assumes that a Trusted Intermediary Program (TI Program) has already been established with an organisation responsible for its implementation. While the issues surrounding this aspect lie outside the Terms of Reference for this project, experience from this project suggests that it will be essential that a TI Program is seen to be independent, or at least at arm's length, from government. Among the more suitable organisations that might host the Program, are industry bodies, large private consulting organisations and local government. In respect of industry bodies, it has to be borne in mind that many wool growers believe that AWI's sole role should be in wool promotion and market development.

Among government organisations and programs that, with appropriate program governance arrangements to maintain independence, could be suitable are Commonwealth programs such as the former National Landcare Program and the National Heritage Trust, and State departments of agriculture.

For the reasons discussed in section 2.3, a TI Program should not be associated with State natural resource management or environmental agencies. As to whether such a program should be associated with regional catchment management authorities is dependent upon the different experience with regional NRM in the different States. As discussed in section 2.3, native vegetation and environmental flows have been very contentious issues in New South Wales, leaving an enduring residue of distrust which might be expected to seriously damage a TI Program that was associated with Catchment Management Authorities in New South Wales. Of course, this is not to say that a particular trusted intermediary facilitator under such a program would not seek to fund activities chosen by group members from a CMA source). In Victoria and Queensland, there may be possibilities, again with appropriate program governance arrangements to maintain independence, to associate a TI Program with regional catchment management organisations.

Given the issues raised in the foregoing discussion, it is recommended that a TI Program should have the flexibility to allow it to be associated with the most appropriate organisation for the region in which it is operating. For any particular region, these arrangements should only be put in place after careful investigation, using key informants, of primary producers' views about past and present NRM issues.

5.2 Discussion of the Process

5.2.1 Preparatory Publicity

A major difficulty encountered in this project was the conduct of the needs analysis meetings. The reasons for conducting a needs analysis meeting with each of the groups were:

- to provide information to assess where the participants were starting from on NRM issues; and
- to provide a guide in determining what topic should be covered in the first activity meeting of the group.

One of the problems encountered in conducting the needs analysis meetings was that the producers involved had an inadequate understanding of why it was necessary to have such a meeting and many of them found this part of the process very confusing. It was mainly because of this that many of the producers who attended the needs analysis meetings did not attend the follow-up activity meeting. If the producers could have been provided with some information about the project prior to being approached to participate in it, perhaps they would not have found the first group meeting to be as confusing as it was for many of them. This aspect should be easier to handle in a full program than it was for the pilot program described in this report. This is because full disclosure about the purpose of the pilot program led inevitably and justifiably to some woolgrowers feeling they were being used as "guinea pigs".

To improve the early group formation stage of a TI Program, it is suggested that a publicity program be conducted to prepare for this. Such a program could be conducted on a regional basis and could consist of the distribution via mail services of an information leaflet which would describe the program and how it would be run. In addition, the leaflet should include a contact phone number that landholders could call if they wished to obtain more information. The content of the leaflet could also be included as an article in local papers and in newsletters, such as the Land and Water and

Landcare newsletters. As discussed above, it would be important that the independence of the proposed TI Program be stressed.

The purpose of this publicity program would be to create awareness amongst producers of the purpose and reasons for establishing a program to focus on the linkages and relationships between actions taken to improve enterprise productivity and the management of the relevant natural resources.

An issue requiring considerable attention in the conduct of the preparatory publicity is to develop an approach which will ensure that most wool producers will be willing to accept the Program and participate in it. To do this, any regional or local factors that may prohibit producer acceptance of the Program need to be identified and, if possible, overcome in the publicity content.

5.2.2 Selection of Trusted Intermediary Facilitators (TI Facilitators)

When the preparatory publicity is underway, initial investigations may be made to identify prospective TI Facilitators. Although some previous research questions whether group facilitators are able to develop a level of credibility that would enable them to fill a trusted individual role (Vanclay 2004), consideration of the experience gained in this project, and with the information covered in section 2.4, it appears that group facilitators with the following characteristics and skills are likely to receive a degree of trust by a producer group.

TI Facilitator's Characteristics:

- known personally by several local producers and respected by them;
- local producers can readily identify with him/her; and
- he/she is accepted by the producers, not only as their group's facilitator, but also as a member of their group.

TI Facilitator's Skills:

- has considerable experience, either as a farmer or as someone who has worked closely with farmers over several years;
- has adequate knowledge and understanding of the goals of local producers and of the types of management practices and techniques undertaken on most farms;
- has the ability to examine and consider a situation from a farmer's point of view (empathy);
- has the ability to converse effectively with most wool producers;
- has well developed group facilitation skills; and
- is aware of the social structure and existing networks in the local community and how these may influence the formation of producer groups.

The characteristics and skills of each of the group facilitators used in this project are briefly compared with the above lists to indicate why they were successful or not successful as TI Facilitators.

The facilitator of the Heathcote groups, who is a farmer in a nearby district, appeared to have all of the necessary characteristics and most of the skills except for "well

developed facilitation skills”. If this facilitator was trained in these skills he would certainly qualify as a TI Facilitator.

The facilitator of the Sutton Grange group, who is a farmer in a district some distance away, is a very experienced facilitator and has all of the skills listed above, except perhaps for knowledge of the local social structure and networks. It appeared that the main factor which he would need to overcome to be a most effective TI Facilitator is that of being known personally by the group members.

The Boorowa group facilitator is a local farmer and has lived in the district for several years. It appeared that she had all of the necessary skills and characteristics listed above. In addition, all of the feedback received from group members in relation to her role as group organiser/facilitator was very positive.

The role of group organiser/facilitator was split between two people for the Mandurama group. It appears that the joint characteristics and skills of the two people probably met those listed above. The reason for the disappointing results associated with this group has to do with the fact that the process used in the needs analysis meeting did not work and this upset and/or confused several of the participants.

From the above experience is obvious that some producers can fill the TI Facilitator role. It may be difficult to identify prospective TI Facilitators in the same locality in which a group will be formed. This is because that, while a particular producer in a locality may be well respected by several producers, he/she may not be respected by a significant minority because of what has happened (or believed by some to have happened) in the past. Thus, it may be easier and less risky to identify the prospective TI Facilitator in a nearby district, rather than in the group’s own district, as was done with both of the Victorian groups.

Besides farmers, some of the people who are already employed as group coordinators, extension workers or agricultural consultants may have the necessary characteristics and skills to fill the TI Facilitator role. Such people may be willing to be involved as a group’s TI Facilitator, given that such a job will only take up a week or two each year, and it may help extend the size of their clientele in their main work.

5.2.3 Forming the Groups

Perhaps the first step to be taken in forming groups is to determine whether there are existing groups that would be interested in being involved in the program. The experience gained in this project indicates that there may be sub-groups of Landcare groups which may be interested in the Program as well as BESTWOOL/BESTLAMB groups and even, perhaps, sub-groups of stud breeders or of farmer association branches. Such groups may or may not already have someone who could fill the TI Facilitator role.

However, the main task at this stage in the Program is the formation of new woolgrower groups and this will need to be done with the assistance of prospective TI Facilitators as occurred in the project reported here. This means that only those producers who are known personally by the TI Facilitator will be invited to join the group. While this may limit the membership of groups, this may be overcome at a later stage in the group’s development.

With the changes that have occurred in the provision of agricultural extension services in all States in the last two decades, there has been an increasing focus on group

extension with a movement away from one-to-one extension (Marsh and Pannell 2000). While these authors concluded that there are many strengths associated with group-based extension, they also argued that there is now an over-reliance on group extension. One of the problems with group-based extension is that there is a significant proportion of producers who will not readily participate in groups. This will limit the number of groups that can be formed and will mean there will still be many wool producers who will not become involved in a TI Program.

The research undertaken by Trompf and Sale (2006) on the participation of producers in the Triple P Program indicated that only 5.6 per cent of the producers in the Glenthompson district voluntarily joined the extension program. This was commensurate with the participation in this program across all of southern Victoria which was 5.4 per cent. The process used to achieve this voluntary participation rate consisted of:

...creating general awareness through the media, by word-of-mouth from fellow producers, and by direct contact with program facilitators. Group formation was based on producer inquiry about the program. Interested producers were encouraged to use their contacts to identify other producers who might join their group when there were insufficient inquiries to form a group within a district

(Trompf and Sale 2006).

To test whether it was possible to raise the participation rate above 5.6 per cent in the Glenthompson district, a process of personally visiting and interviewing every producer in the district was conducted in 1997. As a result, 56 per cent of these producers actually participated in the Triple P Program following this recruitment process (Trompf and Sale 2006).

It is clear that to achieve a reasonable level of woolgrower participation in a region in a TI Program may require personal visits to producers by appropriate personnel. Whether or not TI Facilitators could undertake such an activity and achieve a reasonable level of success would need to be tested. For example, if such “cold calling” behaviour was frowned upon in the district, this process of recruitment could actually reduce the credibility of the TI Facilitator.

5.2.4 Developing the Group Program

The method used to identify relevant issues of concern to the participating producers in this project consisted of conducting an information needs analysis exercise at the first group meeting. Although the outcomes of this process were very useful in determining the topic to be addressed in the second meeting, many of the participants were very unhappy as the result of having to participate in this process. However, those who did participate in the needs analysis exercise and then attended the follow-up meeting were then far less dissatisfied with the whole process.

This experience suggests that while the conduct of an information needs analysis is definitely worth doing it should not be done at the first group meeting. An alternative approach is for the topic to be covered at the first meeting to be based on a few suggestions by the TI Facilitator to members. The decision as to what the first meeting will cover could then be made on the basis of group members’ responses. Great care would need to be taken to ensure the success of the first meeting. An important factor in the success of the first meeting will be the choice of Specialist Presenters, if these are going to be used. The experience from this project suggests that it is possible to

identify suitable Presenters using the knowledge and networks of the TI Facilitator and possibly other extension staff in the region where a group is being established. It is important that the TI Facilitator, with their knowledge of the interests and expectations of producers in their area, should have seen previous presentations by a prospective Specialist Presenter, so they can be sure the Presenter will meet these expectations.

At the end of a successful first meeting, the TI Facilitator could then suggest that at the next meeting they will have a group discussion about what issues might be the focus of future meetings.

If this process is successful, it is suggested that, in addition, at the end of each meeting, 10-15 minutes could be spent discussing what may be covered at the next group meeting. In this discussion it would be the responsibility of the TI Facilitator to refer to what had been decided at the needs analysis meeting and to seek any additional ideas on what should be covered at the next meeting. It is likely that what is covered in a particular meeting may give rise to additional ideas on the part of members regarding what may be covered in the next meeting.

5.2.5 Increasing Group Sizes

While it was not possible to gain any experience with a program expansion phase in this project, there are a number of recommendations that can be made.

The maximum size of groups developed for the purpose of engaging with the NRM issues and practices covered by the LWW Program would be 12 producers. However, it is only necessary to have about half of this number of producers to get a group started. In fact, given that some wrong directions may be taken in the start-up of a group which could lead to loss of credibility of the TI Facilitator or dissatisfaction among group members, it is suggested that where possible, groups should be started with a maximum of six members. Provided a group is small, it is generally easier to correct any mistakes that occur in the start-up period with a reduced likelihood of losing members.

When a group is comfortably established then appropriate steps may be taken to increase its size up to 12. The same processes used in forming the group may be used to increase its size. Another process which can be quite effective is to conduct an open day meeting of the group and invite non-members to attend. At the open day meeting, various members can be asked to give brief descriptions of previous meetings and to follow each of these descriptions with a group discussion of what each of the members feel they gained from the meeting. Groups which have functioned well in the past may attract additional members, while those that haven't functioned well may not.

5.2.6 Recruiting Additional Trusted Intermediary Facilitators

If group expansion and splitting is to take place as described in the previous section, it may be necessary also, depending on the existing TI Facilitators, to recruit additional TI Facilitators. As TI Facilitators with the necessary skills will not be available in large numbers a TI Program should have in place a strategy for ensuring potential TI Facilitators are identified and possibly for allowing group members with the skills and inclination to become TI Facilitators themselves. Having such a strategy should ensure that a TI Program is not held back due to a shortage of suitable TI Facilitators.

5.2.7 Evaluation

The pilot program tested in this project demonstrated that evaluative processes will need to be part of a TI Program to ensure that lessons learnt as the Program progresses are disseminated to all TI Facilitators so that they can provide the flexibility and responsiveness to woolgrower needs that will be essential to the success of the program. Depending upon the size of the Program, an independent resource person may be required to provide TI Facilitators with advice on the handling of specific issues they encounter, and coordinate any training needed by TI Facilitators. This model of support was used when the Rural Financial Counselling Service was first established.

5.3 Terms of Reference Questions

5.3.1 *Does the process quickly assess where growers are starting from on NRM issues?*

The main purpose of conducting the needs analysis exercise in this project was to ensure that the choice of topic for the second meeting took account of where members were starting from on NRM. In all cases, and despite some confusion among members about the purpose of the meetings, the needs analysis meetings were successful in identifying a topic where there was an obvious connection between farm productivity and NRM issues. With suitable facilitation by the TI Facilitator, it is likely that the repeated short needs analysis sessions at the end of meetings could lead to other topics where the connection is not so obvious.

5.3.2 *What will encourage the trusted individual to be involved?*

Obviously the first answer to this question is that TI Facilitators would need to be paid a fee, the amount of which has already been established in the industry, for example, as in the employment of group coordinators. However, it is clear that this alone is unlikely to be a sufficient incentive for those who are equipped to undertake the TI Facilitator role. Some other factors that may act as incentives may be closely related to the required skills and characteristics of TI Facilitators. For example, people who are willing to fill this role may get considerable satisfaction from working socially and professionally with other producers. They enjoy talking with other farmers and they will gain personally from the information covered in the group meetings. These types of returns have the potential to extend beyond the meetings of the group. For example, if a group member comes up with an idea about a topic that could be addressed in a group meeting, the first thing he/she needs to do is contact the group's TI Facilitator, and discuss it with him/her. This sort of activity may be quite satisfying for the TI Facilitator, particularly if he/she appreciates being asked by others for his/her opinion on an issue and whether it could/should be addressed in a group meeting. Provided the individual concerned is able to fulfil the TI Facilitator role, it is likely that, in time, their opinions will become valued by other group members (these are opinions on what could/should be addressed in meetings and not opinions on which practices should be used in managing a wool enterprise).

Other factors which may act as incentives are:

- a strong personal interest in the general subject area which is the focus of the group meetings; and

- a strong personal interest in helping other farmers to achieve their particular goals (an altruistic approach to community service in the farm sector).

In relation to the first of these factors, care needs to be taken that the TI Facilitator does not have “a particular barrow to push”. This can occur if someone, whose main employment is with a commercial firm supplying goods or services to producers, is also used as a TI Facilitator. Another example of where this problem may arise is where a farmer, who is a zealous proponent for a particular farm practice, is used as a TI Facilitator. Such a person may turn other producers off from being group members because at every chance the TI Facilitator has, he/she will promote this practice.

Lastly, it should be noted that, for many potential TI Facilitators who have established a reputation and credibility with producers in their region, getting involved in a TI Program that appears to relate to contentious NRM issues may be seen as a risk to their reputation and credibility. For this reason, a TI Program will need to allow TI Facilitators some flexibility in the choice of NRM issues in which they involve their group.

5.3.3 Is the process transferable from group to group with different characteristics?

In many circumstances, yes. While the overall process should be transferable, the details will vary from group to group. Such differences in the details may include:

- differences in the NRM issues as seen by different groups in different localities;
- differences in the interests of group members; and
- differences in the ways groups operate.

These differences are all matters that need to be managed by the TI Facilitator.

However, it has to be accepted that there will always be a proportion of woolgrowers who are not interested in being in groups, either because of their personality, because of stress in their personal circumstances, perhaps because they belong to some marginalised minority in a district, or because past events mean they don’t “get on” with other growers in their district.

The size of this group of non-participating woolgrowers is hard to estimate, but taking the Trompf and Sale findings together with those of Reeve and Black (1998), a reasonable estimate would be that around one third of woolgrowers may never participate in groups.

5.3.4 Is the process likely to be transferable to other groups and issues facing the NRM issues of farming in the future?

Yes, up to a point. The idea of building credibility by extension workers for the purpose of building trust between themselves and the farm community was well established and recognised in the 1970s. Recently published literature on building trust between organisations, between individuals and organisations, and between individuals has a major focus on trust. Given that the importance of trust has been recognised as being a fundamental factor in developing effective working relationships for the last 30 years, it seems likely that a process based on using trusted intermediaries will continue to be appropriate for some time to come.

However, it has to be recognised that neither trustful, credible relationships between woolgrowers and advisors or facilitators, nor any other extension technique, will get

woolgrowers to invest large sums of their own money in NRM practices that have only a public benefit and no private benefit. The types of practices that were discussed in the meetings that were part of this project all involved substantial private benefit, and varying degrees of public benefit.

Conceptually, there are a set of NRM practices that involve reducing the 'leakiness' of agriculture with respect to water and nutrients (Williams and Hook, 1998). Many of the off-site environmental impacts of agriculture are due to the 'leaking' of nutrients (algal blooms and sedimentation of waterways) and water (rising water tables and changed hydrologic regimes). However, the retention of water and nutrients on-farm as improved pasture growth generally results in more profitable agriculture, so this area has the greatest potential for a TI Program promoting NRM practices with substantial private benefits.

If a TI Program was to broaden its scope to take in issues beyond those where remedial practices have an obvious private benefit, careful consideration has to be given to the distribution of costs and benefits, both individual and collective, and in the short and long term (sections 2.2 and 2.3). This distribution, and how inequities in it will be addressed, has to be made explicit before proceeding to incorporate public or industry benefit issues in the Program. While it might be possible to gain some initial engagement using the approaches trialled in this project, this is likely to be short-lived if producers are expected to provide public benefits at private cost. For example, a TI Program would not be appropriate to gain compliance with native vegetation laws. The retention of native vegetation, or the improvement of biodiversity on farms, largely creates a public benefit, but the costs are borne by the individual producer.

Similarly, an industry-wide benefit in improved market access, or higher commodity prices might be gained through animal welfare accreditation. However, if this is difficult to demonstrate, while the individual costs of compliance are obvious and immediate, then lasting voluntary participation in such accreditation will be difficult to be obtain, regardless of whether or not a trusted intermediary approach is used to gain initial participation.

Whenever there are inequities in the distribution of public and private benefits and costs, it is essential that effective arrangements to address these inequities are in place before embarking on a TI Program. For example, if the adoption of NRM practices yields a public benefit at private cost, but no private benefit, then the arrangements for the public funding of these costs have to be in place before attempting to obtain woolgrower participation through a TI Program.

As experimentation by governments and regional catchment management organisations in directing public funds to investment in NRM for public benefit on private property continues, it is likely that effective and efficient ways of doing this will be found. The manager of a TI Program will need to maintain a watching brief in this area, with a view to bringing successful investment models into the Program.

5.3.5 How have the group members and trusted individuals benefited from the process?

As described in Chapter 4, those producers who were unhappy with having to participate in the needs analysis exercise and, as a result, did not attend the second meeting of their group, probably gained nothing from the process. In fact, it should be recognised that their experience may have resulted in them developing a negative

attitude towards being involved in any program which aims to address the linkages between effective improvements in productivity and natural resource management. This attitude may work against future participation, and highlights the need for skilled TI Facilitators who can ensure that, should meetings not go to plan, this does not result in lasting resentment among participants.

Those producers who attended the second meeting of each group all gained useful information, some of which they may be able to apply in their own enterprises and achieving personal benefits. As discussed in Chapter 4, all of the second meetings were either “quite successful” or “very successful”.

Probably only the Boorowa TI Facilitator would have gained much in a personal sense from the Pilot project. The Heathcote TI Facilitator probably needs more experience in the role before he would benefit from it. While the Sutton Grange TI Facilitator would have gained worthwhile experience from facilitating the two meetings, he was no doubt disappointed that the group was not interested in continuing as a group. It is not obvious that either of the two who shared the TI Facilitator role with the Mandurama group gained anything from the experience. However, one of them was also the Specialist Presenter at the second meeting, and it would appear that the positive feedback he received from this would have been of some benefit to him.

5.3.6 Can a process of engaging woolgrower groups through the use of a trusted member or coordinator be utilised to stimulate a wider interest and involvement in LWW's NRM issues?

The answer to this, the central question in this project, is a qualified yes. The Boorowa group was exemplary in demonstrating that the process is possible and is effective in stimulating ongoing interest and involvement in the types of NRM issues with which LWW is concerned. The success of the Boorowa groups is in no small way due to that group's TI Facilitator, and highlights the critical importance of having the right person in the TI Facilitator role.

The other groups were less than outstandingly successful for the reasons that have been described in previous sections. However, there is little doubt that if the project reported here was repeated with similar groups in those regions, using what has been learnt to this stage, improved outcomes could be achieved.

5.3.7 What are the recommendations for LWW and the wool industry on the “dos” and “don'ts” of undertaking such a process?

The list on the following page contains a mixture of recommendation that are directed to program management and recommendations that are more relevant to TI Facilitators. Those relevant to program management are italicised.

<i>Do make every effort to ensure that a TI Program is seen to be independent, or at least at arm's length from government.</i>	<i>Don't expect a TI Program to cover public benefit NRM practices that have no private benefit.</i>
<i>Do be very clear in publicising a TI Program about its purpose and the benefits of participation.</i>	<i>Don't assume that publicity alone will bring a participation level more than about five per cent of wool growers</i>
<i>Do emphasise productivity aspects in the publicity.</i>	<i>Don't mention contentious public benefit NRM issues in the publicity.</i>
<i>Do work through local networks and experienced and knowledgeable key informants when recruiting TI Facilitators.</i>	
<i>Do have a clear statement of what the benefits for TI Facilitators will be if they are involved in the TI Program.</i>	
<i>Do assess the suitability of TI Facilitators against the criteria provided in this report.</i>	<i>Don't assume that woolgrowers themselves will not be TI Facilitators</i>
<i>Do consider drawing woolgrower TI Facilitators from outside of the immediate locality of the proposed group.</i>	
<i>Do assess TI Facilitators training needs and provide training</i>	<i>Don't assume that TI Facilitators will have all the skills needed to be effective in their role.</i>
<i>If recruiting group members through existing groups, do make every effort to support the coordinator or chairperson an ensure they have a clear understanding of what the TI Program is about.</i>	<i>If recruiting group members through existing groups, don't assume that the coordinator or chairperson of a group will be able to adequately promote a TI Program and answer all the group members' questions.</i>
<i>Do allow at least four weeks for a TI Facilitator to line up groups. If working through existing groups, it could be much longer, depending on their meeting frequency.</i>	
<i>Do be prepared to start with a small group and enlarge the group as time goes on.</i>	
<i>Do be aware that the willing participators are likely to be in other groups and avoid contributing to group-fatigue. Four meetings a year is a reasonable maximum to expect of members.</i>	
<i>Do put a lot of effort into making sure that the first meeting is a success. This meeting should be on a topic that is relevant, practical and likely to generate enthusiasm. Preferably it should be a farm visit or farm-walk</i>	
<i>Do put a lot of effort into selecting Specialist</i>	

<p>Presenters for the first (and subsequent meetings). Preferably choose a speaker you have seen in action, or at least one that comes highly recommended by a number of woolgrowers.</p>	
<p>Do have a session at the end of the first meeting to get the participants' reactions to the meeting and their suggestions for future topics. Suggest a second meeting solely for the purpose of working out topics for the next two or three meetings.</p>	
<p>In the session at the end of meetings, do ask participants about any special interests they might have about the next meeting's topic, so that any Specialist Presenters can be briefed to cover these interests.</p>	
<p><i>Do make sure that the TI Facilitator is able to facilitate a 'whiteboard' meeting to gain group consensus on what their main productivity and NRM issues are and what topics could be subject of future meetings.</i></p>	
<p>Do take steps to increase group size once the group is working well. 'Open day' meetings is one way of doing this.</p> <p><i>Do maintain a watch for suitable TI Facilitators in a region. People with the necessary skills are likely to be few, so that the supply of TI Facilitators could be a brake on the development of a TI Program.</i></p>	<p>Don't allow group size to increase beyond about 12 members. If there is demand for participation, consider forming two groups.</p>
<p><i>Do provide evaluation processes and professional support for TI Facilitators</i></p>	<p><i>Don't assume that a TI Program will eventually reach all woolgrowers – there are at least a third who will not participate in groups and perhaps five percent who are already engaged in NRM issues and practices.</i></p>
<p><i>Do maintain a watching brief on processes for directing public funds to public benefit NRM on private land. These processes will be important to a TI Program as it matures.</i></p>	

6 Conclusions

The project has demonstrated that it is possible to engage woolgrowers in NRM issues and practices that are connected fairly directly to agricultural productivity, through the use of a trusted intermediary. It appears that there potentially can be a number of types of trusted intermediaries, such as woolgrower or non-woolgrower intermediaries who have mainly a facilitatory role and non-woolgrower intermediaries who can perform both a technical advisor role and a facilitatory role. A facilitatory intermediary will have to rely on obtaining others to serve as technical advisors at meetings, whereas a technical advisor intermediary may provide technical content at some meetings. In the long term, both types of trusted intermediary will need to bring other technical advisors to group meetings.

Regardless of whether a trusted intermediary can act as a technical advisor or not, the experience from this project suggests a number of characteristics and skills that should be sought in trusted intermediaries and these are consistent with the literature on trust and credibility in agricultural extension. Trusted intermediaries need to have a history of social interaction within the community where group formation is proposed, be well regarded by at least some woolgrowers there, have a reasonable practical knowledge of wool growing and the goals of growers in the area, and have strong skills in communication with wool growers and group facilitation.

The process of selection of trusted intermediaries and group formation is a slow one and has to be managed flexibly and opportunistically. In a formal program, recruitment of intermediaries would require both working through key informants and assessing potential intermediaries against the criteria recommended in this report. A formal program would need to provide initial training for trusted intermediaries in any areas where they did not quite meet the criteria. Trusted intermediaries would be expected to take responsibility for recruitment of group members and this project has demonstrated that this can be done either through existing groups or by approaching woolgrowers individually.

While it might be thought appropriate to first understand the interests of group members and the level they are at in their interest and engagement in NRM issues and practices, the experience from this project would suggest that it would be better to commence group involvement in a formal program with a farm visit or walk, specifically designed to build credibility for the program, demonstrate the benefits woolgrowers can expect from involvement in the program and create enthusiasm for further participation. Consequently, the first meeting should be considered a critical event and in a formal program, considerable support should be given to trusted intermediaries to assist them with organising and running this first event. With a successful first meeting, participants are more likely to tolerate the sort of abstract group process needed to reach a consensus on the group's interests and future topics. It is recommended that no more than four meetings a year be scheduled and the timing should be flexible to work around busy periods in the farm calendar. It is also recommended that each meeting should end with a brief session to obtain a group consensus on the focus in future meetings.

With only two meetings with each group in the project, it is not possible to gain experience with the issues that might emerge as a formal program using trusted intermediaries matures. However, a number of issues have been put forward for consideration.

Firstly, good program management would require that, as the program proceeds there is an evaluation process that gathers and disseminates information about what is being learnt by those managing the program and the trusted intermediaries (e.g. a list of Specialist Presenters who have been well received by woolgrowers at meetings might be maintained and updates circulated to trusted intermediaries). Trusted intermediaries may also need some form of resourcing and support to enable them to respond to the challenges they encounter in their role.

Secondly, a formal program would need to plan for expansion, both within a particular district and into new districts. It has been recommended that “open day” meetings to which group members invite their colleagues might be a way of increasing membership. It has also recommended that groups start with around six members and be split once they reach about 15 members. One aspect of the issue of expansion into new districts is dealt with below.

Thirdly, realistic goals should be set for the level of participation in a formal program using trusted intermediaries. It is suggested that around five per cent of woolgrowers may already be well engaged with NRM issues of the type that are the concern of LWW, and that around one third may never be reached through group extension. The proportion of the remaining 60 per cent of woolgrowers that might be brought within a trusted intermediary program will depend on both the management of the program and the nature of emerging NRM issues.

This pilot project cannot offer any experience with the issues surrounding the organisational location of a formal program, nor with NRM issues beyond those that were covered at the four meetings. However, a number of basic considerations have become apparent in course of this project, and these are briefly mentioned below.

Firstly, it is likely that as groups mature, they will exhaust the range of NRM issues that have direct connections with productivity and where there are substantial private benefits to the adoption of NRM practices. It is no coincidence that most groups in this project chose topics around soil health and pasture management – practices in this area have a strong private benefit. As time goes on, groups will have to either disband for lack of subject matter, or tackle NRM issues where the private benefits are more difficult to demonstrate (regardless of the magnitude of public benefits). Expansion of the program into new regions may also require woolgrower engagement with public benefit NRM issues. In these cases, the willingness of woolgrowers to engage with these issues will depend critically upon the availability of acceptable (both to growers and public accountability) models for the transfer of public funds for investment in NRM on private property. This is an evolving area in NRM in Australia and it would, in a formal program, be essential that program management at least remained well informed about emerging models, or even trialled various models within the program.

Secondly, any formal program will need to be realistic in acknowledging that past policy mistakes and dysfunctional regional implementation in NRM has left a lasting distaste among many woolgrowers for NRM issues. The need for any formal program to have a strong and visible independence from government generally, and from State natural resource agencies in particular cannot be underemphasised. NRM is becoming increasingly politicised and the possibility of more policy mistakes cannot be ruled out. A strong, independent, industry-based position for a formal program would provide some protection from the fallout from such mistakes.

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8 APPENDIX 1

8.1 *Heathcote*

Jim Shovelton gave an overview of the project and set the context for the needs analysis (The facilitator was not comfortable unless this was done). The needs analysis was conducted by asking the participants to write on a card the major issues of concern to them as farmers from environmental and productivity perspectives. The issues raised were then listed and those over which the project could have no influence were deleted (e.g. poor roads). The remaining items were then amalgamated to give a list of three or four issues. These were discussed and consensus achieved as to the highest priority. The issue of highest priority in NRM was 'soil health' and the priority for productivity was improved pasture productivity.

It was agreed that the basis for high pasture productivity was a 'healthy' soil. The key soil issue they wanted to address was the interpretation of soil tests. As a follow-on, the group then wanted to look at a property that was using conventional farming methods (e.g. fertiliser, improved pastures) and a property that was using alternative farming practices.

8.2 *Sutton Grange*

The natural resource management issues identified by the participants as being of interest to them were:

- acidity,
- declining soil fertility,
- soil erosion,
- pest animal and pest plant management,
- pasture stability and composition,
- maximum conversion of rain to production and matching the farming system to the environment

The two general themes underlying these areas of interest were soil fertility and the optimal management of climate variability and seasonal conditions.

8.3 *Boorowa*

The major topic raised again was understanding soils and their management. The second most discussed topic was native grass management. There was a general consensus that tree planting had been done to death.

Details of the issues raised by participants in the scoping phase of the meeting are listed below.

Participant 1

- Landcare funding is mainly aimed at tree planting – much research indicates greater benefits can be obtained by planting deep rooting perennial pastures – a win for the farmers and the environment

- High acidity of soils in much of this area – naturally occurring but exacerbated by clovers – high cost of reversing this. Environment suffers from bare soils when there is not enough ground cover.
- Droughts are a fact of life in Australia. Instead of giving money for extraordinary circumstances- tax relief should be given to encourage farmers to prepare for droughts eg 3-5 yr write down on fodder storage.

Participant 2

- Managing climate change – greater variability
- Acid \soil management
- Manipulating pastures to favour native pastures
- Receiving realistic prices for product
- Maintaining profitable stocking rates
- Time and money spent complying with statutory regulations

Participant 3

- Degradation of our natural resource. Because our system is so production drive, need to understand better the huge resource under our feet.
- The production of higher nutrient dense foods. To understand what actually drives quality agriculture, nutrition, etc
- Labelling our primary produce to really give accurate standards for the population at large. What really creates a superior product.

Participant 4

- We need to make a profit both now and into the future
- The only way I can see how to do this is to have a healthy diverse regenerating landscape.
- To achieve this we need the solar, mineral and water cycles working at their optimum to allow a successional shift towards perenniality
- To achieve the above need 100% ground cover
- Match livestock to what the country can carry – aim for flexibility in stocking rate.
- Need to live off the interest (solar \$s) from land rather than capital from land.

Participant 5

- Boorowa R. and other local rivers in the southern tablelands. Intense subdivision for hobby farms. Large dams, irrigation and bores are having a big impact on these rivers. Large effect on the water table and creeks.

- Constraints brought about by such organisations as the rural fire service and other such organisations, creating more and more paperwork.

Participant 6

- Not being profitable enough to carry out major projects even with CMA help eg gully erosion
- Lifting current productivity with the help of super is difficult with current wool prices and with the effect of the last few seasons at this stage I am not sure if I need super based on the Holistic management course I have done.
- Trying to keep 100% ground cover.

Participant 7

- Soil management
- Acid soils. Assessing all nutrients (not just available)
- Grazing management of native perennials
- Grazing management of non native perennials

Participant 8

- Pasture persistence of non native perennial grasses during drought/dry autumns
- Native grass management
- Rising costs of inputs v declining prices
- Managing dry autumn(bare ground) with self – replacing flocks
- Optimal stocking rate/profit/pasture management
- High cost of new pasture establishment – managed against lower profits

8.4 Mandurama

Participants were asked to list the factors affecting productivity.

The written responses were as follows:

Participant 1

- Management
- Attitude
- Courage

Participant 2

- Wool produced per hectare
- Lambing percentages

- Pasture production- quality – matching stock to feed availability

Participant 3

- Pasture/pasture management
- Stocking rate
- Cost of production

Participant 4

- Pastures – sowing, maintenance, fertilizers/weed control
- Breeding, genetics
- Fertility/weaning percentage
- Temperament
- Stocking rate
- Animal health, worm control, lice etc

Participant 5

- Emphasis is always on kg/ha
- Cost of production
- Pastures/fertility related back to cost of production
- Management
- Profit is a function of cost of production
- KEY DRIVERS – turnover/overheads/gross margins

Participant 6

- Productive pastures
- Yield per hectare

Participant 7

- Pastures – soil fertility: pH/available nutrients/super/sulphur/selenium
- Reproduction
- Production per hectare

This group was unusual in that there was a very heavy focus on production/ha not production/hd as in the Boorowa group. In discussion around the issues raised, a common thread that emerged was the sustainable use of pastures in what was seen to be

an increasingly variable climate. The specific issues raised were stocking rates decisions that ensured maintenance of profits and which preserved the pasture base.

Environmental issues of concern that were raised as a separate agenda item were:

- Trees – dieback (2)
- Water – availability/infrastructure(2)
- Removal of willows/cumbungi/waterway management(4)
- Erosion(2)
- Acid soil/soil health (4)
- Pest plants and animals (Weeds/foxes/kangaroos) (2)
- Soil degradation
- Salinity
- Climate change

From the lists developed the three topics where a linkage could be made between productivity and environmental outcomes was pasture management, weeds and tree decline. The group decided to deal with pasture management and to look at the implications of variable and declining rainfall on optimum stocking rates and pasture persistence and cover.

