This topic deserves a whole book rather than a single chapter. Landcare has turned Australian land conservation research and extension on its head. Changes in the ‘how’ and the ‘who’ of research and extension over recent years have been profound. Perhaps the most significant feature of the (r)evolution in research and extension practice is that change is occurring in the field, on the run, often initiated by practitioners rather than planners or policy makers. It is difficult to capture the breadth, depth and significance of the way in which Landcare departs from traditional approaches to land conservation extension and research. We attempt to do so by detouring through some extension theory in order to set the scene for an exploration of the jobs and daily lives of some people working with Landcare groups.

THE TRADITIONAL TECHNOLOGY TRANSFER MODEL OF RESEARCH AND EXTENSION

Landcare is a marked departure from the dominant ‘diffusion of innovations’ theory, upon which most land conservation extension in Australia has been based for the last two or three decades. This model theorises that adoption of a given innovation by a given farmer is the end result of a mental progression through awareness, information, evaluation, trial and finally adoption. Farmers were assumed to be a homogeneous group apart from their propensity to adopt and it was also implicitly assumed that innovation is inherently good and equally beneficial for all farmers, and that therefore everyone would adopt eventually. A few are quick to catch on to an innovation, then many follow, and a few take much longer, resulting in a bell-shaped curve if
adoption is graphed over time. This theory enabled the labelling of farmers according to their order on the adoption spectrum, the earliest being ‘innovators’, followed by the ‘early adopters’, ‘early majority’, ‘late majority’ and finally, the ‘laggards’. It underpinned the notion that research and extension need only work with the innovators and early majority, theoretically ‘the top’ sixteen per cent of farmers, and the rest would automatically follow their example. This is a very comfortable notion for agricultural scientists, who learn much from and enjoy working with innovative farmers, who often move in the same social circles.

Diffusion theory has underpinned systems of research and extension in which scientists determine research priorities and carry out research in controlled conditions on research stations and in laboratories, generating new knowledge and technologies which are transferred to the leading farmers by extension services. These farmers adopt the innovation(s) and iron out any wrinkles, and the innovation then diffuses through the farming community. Research and extension systems based on this model, commonly referred to as the ‘transfer of technology’ model, have been remarkably successful in increasing agricultural production in many countries, including Australia. Investment in agricultural research institutions and their projects has been consistently profitable. When it comes to the adoption of innovations such as a higher yielding crop variety, or machinery which saves time or labour, hundreds of empirical studies have proved the diffusion process to occur.

But the theory of diffusion of innovations has fairly narrow limits, some of which were acknowledged and documented by Everett Rogers, a key architect of diffusion theory. Rogers proposed that five key attributes of innovations—relative advantage, compatibility, complexity, trialability and observability—are important in determining adoption, thus focusing attention on the nature of the technology as well as the farmers’ propensity to adopt. Others suggested that the main limitation of diffusion research was its inability to predict the conditions within which diffusion could be expected to work. Furthermore, the focus on the individual as the unit of analysis and the assumption that all farmers are the same with respect to the usefulness of a given innovation is patently flawed. It ignores distortion of information through the diffusion process, differential rewards between earlier and later adopters of innovations, the diversity among farmers and their farming styles, and important social consequences. Research and extension systems based on the transfer of technology model tend to be biased towards larger and more ‘successful’ farmers.
Times have changed. Maximising food production is no longer the main goal of agriculture. Certainly global food production must continue to increase, but opportunities to bring about such increases by bringing new land into production or making simple modifications to farming systems are increasingly scarce. To refer to Rogers' characteristics of a given innovation: where the innovation is complex, where costs and returns may be hard to identify or apportion, where there is no immediate return, or where the innovation challenges community norms, then linear communication from researcher to extension agent to progressive farmer to the rest is unlikely to result in widespread adoption. Yet these very characteristics are all quite common when one is confronted with the challenge of developing more sustainable farming systems.

THE PARTICIPATION PARADIGM

One of the most fascinating aspects of Landcare is the extent to which it has blossomed under its own steam, rather than as the end result of carefully conceived strategic policy interventions. Undoubtedly the inputs of some key public figures, administrators and policy makers with an awareness of, and commitment to, a participatory approach were critical in enabling the rapid growth and resourcing of Landcare. But overall, policy has tended to gasp in the dust of on-ground developments. Frank Vanclay of Charles Sturt University at Wagga Wagga has pointed out that Landcare has developed without a substantial theoretical basis and consists 'of a substantial amount of ideological faith'. To the extent that most Landcare practitioners are unaware of academic extension theories, this suggestion is certainly true. However, what is ideological faith to one person may seem common sense to another, as Angus Howell, sheep farmer and coordinator of the Warrenbayne Boho Landcare Group suggests:

Initially government officials and scientists were threatened by the process, but now they see themselves as part of a team with the community. They are comfortable with the fact that the farmers too have a background of knowledge that is important to them. Where Landcare groups have taken the responsibility for looking after the public awareness programs, the level of understanding has exploded [waving his hands up into the air]. We have a better feel for the sorts of processes from which we learn than does (with respect) the best trained field officer.
The drive to replace diffusion theory with a coherent body of thought which better explains how knowledge is generated, exchanged, transformed and used in rural communities, and which can point to more appropriate models for institutional and policy development, has gathered momentum. In 1987, Robert Chambers and Janice Jiggins published a seminal paper in the journal *Agricultural Administration and Extension*, which analysed the limitations of the transfer of technology model of agricultural research, in particular from the perspective of the hundreds of millions of resource-poor farmers who have been further marginalised by the green revolution. They proposed a new approach which they called ‘Farmer First and Last’, designed specifically to transfer power and initiative throughout the research and extension process to farmers, relying to a much greater extent on farmers’ knowledge, skills and self-interest, placing scientists more in the roles of learners and facilitators. They asserted that scientists would need to acquire new skills and that a turn-around in behaviour and attitudes would be required in order for researchers and extension staff to work more effectively with all types of farmers.

In the late 1980s, a range of participatory approaches to the generation, exchange and use of information expanded upon and implemented the above themes in many countries, consolidating the emergence of a new world view in agriculture. This world view acknowledged the limitations of reductionist science, positivism and the technology transfer approach, and complemented this with a ‘farmer first’ paradigm in which farmers’ needs and priorities are the starting point for agricultural research and extension, throughout which farmers are intimately involved. Chambers and other proponents of this emerging paradigm do not suggest that the ‘farmer first’ approach replaces the traditional research-advisory cycle, rather it complements it. Successful Australian models of ‘farmer first’ approaches are in action, in the Kondinin Group based in Western Australia (which started in the 1970s), the Farm Management 500 and Farm Advance projects in south-eastern Australia and of course leading Landcare groups. But these groups have had to work extremely hard over a number of years to achieve recognition (particularly from research funding bodies) as legitimate players in research.

There have been notable successes in the application of participatory approaches in complex, diverse and risky environments around the world. However, Jules Pretty and Robert Chambers contend that, in order for participatory approaches (of which Landcare is a classic example on a large scale) to spark lasting improvements, a conjunction of three critical factors is required:
• new institutional environments explicitly endorsing a participation paradigm;
• new learning environments for professionals and rural people to develop capacities;
• new methods for partnerships, dialogue, participatory analysis and sharing.

Institutional support is likely to have little impact unless it is followed through with participatory approaches to learning, and participatory methods applied in research and extension in the field. Pretty and Chambers mention examples where a Director General has been convinced of the value of participatory methods, but staff wedded to traditional top-down approaches have resisted reform. They cite problems such as poor linkages between institutions and farmers’ groups, ‘departmental separatism’, obstacles to multidisciplinary teams and individual behaviour inimical to participatory interaction, as limiting institutional support. Landcare groups are familiar with these hassles.

Participatory methods in the field may be abandoned or never even tried, unless there is institutional support and/or a learning environment. Jules Pretty tells of a follow-up visit to a field research station several years after running field training workshops in participatory approaches: ‘Yes, we remember that workshop very well. It was great, but we have not used any of the methods...’ A creative and participatory learning environment (eg the Landcare facilitation training courses in various Australian states), in the absence of institutional support and constant reinforcement through application of methods in the field, is typically marginal, vulnerable and short-lived, often critically dependent on one or two enthusiastic people.

Pretty and Chambers sum up the necessary pre-conditions for a move into the participation paradigm as follows:

... When the learning environment remains top-down, formal and based on detailed manuals, even though there is institutional support, field methods may not become truly participatory: this problem is indicated where training takes extended periods in the classroom rather than the field. When participatory field methods are not known or practised, reinforcement through popular enthusiasm does not occur, and appraisal and action are more laborious and less easily sustained. In these various conditions, programs tend to be either weak and threatened within their institu-
Supporting Landcare groups

... or to sink into repetitive ruts. In both cases, the withdrawal of external support is a danger ...

In successful situations, support within institutions exists at the top. Authority is decentralised, and local diversity supported. There are incentives and encouragement to conduct participatory work. Linkages and sharing are encouraged with other institutions, whether NGO, government or local organisations. Spread is lateral, through sharing within and between organisations, and through participants becoming trainers. The learning environment focuses on problem-solving, and is interactive and field-based. Error is embraced in the learning process. Responsibility is personal rather than procedural, relying more on discretion and judgment and less on rules and manuals. Behaviour and attitudes are democratic, stressing listening and facilitation, not didactic teaching. Methods and approaches are participatory and enabling, and seek to enhance capabilities. Local groups and organisations are supported, and encouraged to conduct their own experiments and extension, to manage themselves and to make demands on the system. Rapid adaptation to change occurs through devolved responsibility, local learning and the responsive generation of a range of options.198

This is quite consistent with the Landcare experience in Australia in its present pivotal stage of development. Landcare has many isolated examples of genuinely participatory methods being applied in the field; we have some creative, interactive, capacity-enhancing training in some states and there are varying degrees of institutional support and commitment to participatory approaches.

However, there are several challenges implicit in any serious consideration of the concept of sustainable agricultural systems, which suggest that considerations wider than just the degree of participation of land users are needed in order to inform the development of more appropriate research and extension systems.

Firstly, the scales in space and time involved mean that the farm and the farmer are among many other players, not the key focus of the system. Rural communities, urban consumers, the voting population, other species, future generations—all have a stake in sustainable systems of food- and fibre-production.

Secondly, the conundrum of achieving sustainable development and the complexity of integrating ecological, social and economic considerations in situations characterised by vast scale, uncertainty
and urgency, mean that society has to develop new competencies in learning, planning, and making and implementing collective decisions. We have already mentioned the concept of ‘second order science’ of Funtowicz and Ravetz, which offers penetrating insights into the deficiencies of reductionist science in such situations. Interdisciplinary research, integrating bio-physical, economic and social research skills, is required to look at ‘the big picture’—not only to develop multi-faceted processes for tackling complex problems, but often in order to find out which smaller bits of the picture are most in need of more basic research.

Because solutions to environmental issues will require institutional, structural and social change as well as new knowledge, it is equally apparent that people from many community sectors need to be involved with scientists from the earliest stages of research, not at the ‘university researchers have discovered that ...’, or ‘scientists recommend that ...’ stage. Science has a vital role to play, but as a tool of society, not to set the agenda.

In terms of the effectiveness of Landcare groups and of the goal of sustainability, the way in which research is carried out is as important as which issues are explored. The complexities inherent in sustainability and the primacy of farmers in making land management decisions mean that a recipe approach to land management recommendations won’t work. Researchers and extensionists working with farming communities, with a focus on tools instead of recipes, will require new modes of thinking and acting. Science must work more closely with communities throughout the entire research process from issue identification to adoption, if researchers are to avoid the problem referred to by Brian Roberts as ‘answering questions no-one has asked’.

Answering questions no-one has asked is a characteristic of systems of research and extension based on the transfer of technology paradigm, propped up by the questionable assumptions of diffusion theory. Researchers at Wageningen Agricultural University in the Netherlands, in particular Niels Röling and Paul Engel, have developed the concept of an Agricultural Knowledge and Information System as a more constructive analytical model, enabling the consideration of a multiplicity of relatively autonomous actors, diversity in sources and types of information, identification of knowledge networks, and the development of knowledge management.

A knowledge systems approach broadens the ambit of extension. Figure 7.1 depicts the extension spectrum—from technology transfer (in which paternalism and the ‘expert syndrome’ thrive) to
human resource development. It illustrates that different approaches to extension, requiring different types of skills, are appropriate in different situations.

Technical know-how is not made redundant as situations become more complex; rather it is built upon as the spectrum moves towards empowerment. One of the most profound constraints to landcare is the lack of technically sound, profitable solutions, which means that technical training and expertise are as important now as ever. However, the social and economic aspirations of many Landcare groups, and their focus on the community and catchment level, necessarily limit the applicability of technology transfer approaches to a narrow portion of their spectrum of concerns.

In summary, extension and research are being required to change to mission-centred, rather than problem-focused approaches; to learn new skills to work effectively at a community, rather than a paddock, level; and to concentrate far more on process—who is involved at what level, who asks the questions, who listens, and who owns the process, rather than on traditional concerns of tasks and outputs (publications).

Let us ground this fairly abstract discussion in the everyday lives of some extension and research practitioners. We have looked at Landcare in action through the perspectives of various Landcare groups and farm families. But, although farmers are the key agents at the ‘dirty end’ of landcare, the Landcare movement embraces a broader spectrum of actors. In Chapter 3 we discussed the characteristics of effective Landcare groups, many of which are influ-
enced to a large extent by the quality of technical advice and facilitation skills to which groups have access. There are many hundreds of extension officers and researchers working with Landcare groups and with individual farmers, usually working long hours, often in their own time, and with increasingly scanty resources. Their perspective offers a better feel for the overall effort and potential embodied in the Landcare movement.

**CHANGING ROLES IN AGRICULTURE AND NATURAL RESOURCE MANAGEMENT**

Landcare groups have precipitated the emergence of new roles within Australian agriculture, which are distinctly different from the roles associated with the traditional labels of extensionist, researcher and farmer. There are now well over one hundred people working in Landcare facilitation and coordination roles in Australia, most of whom are funded by the National Landcare Program. In addition, many traditional agricultural advisers, some researchers and some representatives of local government and conservation groups, are receiving some form of training in these modes of operation to improve the effectiveness of their own interaction with Landcare groups. This discussion focuses on roles, not people. It is quite feasible, in fact common, for one person to perform each of these roles at various times with various groups, or even with the same group. Recognising the appropriate mode of action is part of the art.

Lea Jellinek and Christine Joannides have been working on social aspects of sustainable agriculture for several years, Lea as a consultant sociologist and Chris as a Landcare facilitator. At a weeds conference in Melbourne in 1991, they presented a paper which makes a practical case for intermediaries between farmers and sources of technical and financial assistance, some extracts of which bear repeating.

*Put yourselves in the farmer’s shoes. You are on your farm, slaving away, head down, trying to make a living in this harsh economic climate. You need to decide which crops to plant, how they fit into your current rotation, whether you will be able to tackle the weeds, whether you should try direct drilling, whether you have the necessary equipment, whether the prices will hold and you will be able to sell what you have produced. You are bombarded by masses of information about soils, prices, crops, livestock, pastures,*
markets, stubble retention, herbicides, resistance to herbicides, disease. There is no-one out there who knows your particular circumstances, who understands your entire farming operation. There is no-one to help you sift through the mass of contradictory data. You feel overloaded with information, and yet in an information vacuum.

Weeds and herbicides are but one aspect of the farmers' decision-making process. This is a highly complex and specialised field. The local chemical representatives in your area are the most knowledgeable, but are they to be trusted? After all, they are promoting a product from which their firms profit. You are in a quandary. Who should you turn to? You need an unbiased opinion from someone who is not pushing a product. You need to understand the trade-offs, the benefits and dangers. Like so many others, you fear the long-term effects of chemicals on yourself and your land. You need to know all the other possible sources of information—the experiences of other farmers, research stations, private consultants, government departments, magazines, books, computer, television and radio programs. You need someone to help you integrate this information about weeds and chemicals with all the other aspects of your farm.

Governments all around the world ... are cutting back on extension. In our society, little value is placed on education and extension, the learning process. Communication, talking, interaction, asking questions and listening are taken for granted. It's assumed that we learn from childhood to face one another and talk. And yet, in our increasingly scientific, specialised and complex world, the things that should be most obvious and basic, are most alien. We do not know how to convey information, how to place ourselves in somebody else's shoes and stimulate their enthusiasm. We do not take the time to gain trust, interest and involvement, the basic ingredients of learning. We forget that there are farmers out there—the main agents of change, living in a particular place with particular problems. We do not know how to place our fragment of specialised scientific knowledge in their whole farming system. We lecture instead of asking and forget that face to face dialogue is the most natural and one of the most effective ways to convey knowledge.
Farmers are surrounded by a mass of data which is hellishly difficult to sort through, even for the most educated. Field communicators can try to make sense of it all, or at least bring all those who know about it face to face with the farmer to explain themselves. The field communicators can get an overall picture of the common problems and key issues. Unlike the scientists isolated in their laboratories or universities, the field communicators get to know the people, places and problems they are dealing with. They are the bridge to the outside world—the missing link.

As one farmer put it, 'without the link person it is like having a motor without a spark plug'.

The 'field communicator' role described above has elements of facilitation, coordination, consultancy and traditional advisory work, and the quote makes a good case for the continued need for intermediaries between farmers and sources of information. A critical question is who should pay for these field communicators? We must be more sophisticated in our analyses of public and private benefits and costs, so that taxpayers' funds are spent where they will achieve most public good, most effectively. We will return to this discussion after exploring the specific roles emerging in Landcare and how they differ from the more traditional modes of extension based on the assumptions of diffusion theory.

**Facilitation**

Essentially, the aim of the facilitator is to foster community synergy. This means helping Landcare groups to make best use of the human resources available, by acting as a link person within the group and the local community, and also between the group and outside sources of information and assistance.

Facilitation in the Landcare context usually also means helping to develop a shared sense of direction among all the relevant actors. This requires a sufficient insight into group processes to be able to assist groups to find and set direction, to identify factors preventing the group from reaching its potential, and the skills to work through these issues with the group, without imposing direction upon them.

Facilitation is much more a matter of skilled listening, asking the right questions of the right people at the right time, than it is delivery of technical information or packages. This can mean challenging farmers to open their minds to new possibilities, to new ways of
looking at their situation, their resources and the options open to them. Facilitators are often ‘providers of occasions’, organisers of encounters designed to stimulate new ideas, new ways of thinking, new perspectives or new liaisons between groups and sources of assistance. Jane Becker, a former archaeologist working as a Landcare facilitator in Northern Tasmania, likens her role to that of the piece of grit in the oyster, which hopefully one day leads to the development of a pearl. The art of fostering group synergy is delicate. It involves knowing when to lead and when to wait. It also requires empathy with farmers.

Facilitators are often involved with a number of Landcare groups at one time. While their main role is in the early stages of group establishment, they may perform a short-term troubleshooting role with mature groups from time to time, or be involved with rejuvenation of groups in decline. Facilitators ideally have sufficient technical skills in land management to be able to assist groups to set technically sound goals and access appropriate advice, but this is not essential. More important, facilitators must be able to handle the fine balance between intervention and strategic withdrawal in group activities. Facilitators are often the ‘meat in the sandwich’ between the sometimes conflicting demands of Landcare groups and government agencies. These people must have higher-level group facilitation skills, skills which are traditionally practised outside of agriculture.

Landcare facilitators work at the interface between community groups and government agencies, of which they are usually quasi-members. Facilitators are inexorably drawn to conflicts of interests between and/or within agencies and groups. For example, a group may perceive its problems very differently from the regional salinity expert, who may have a reasonable grasp of the technical issues and a pet project for which he has been trying to get resources. He has a clear view of ‘what the group really needs’, which happens to coincide with his project idea for which he wants the group to seek funds. On the other hand, the group is still working out its priorities and direction, a process which the facilitator understands is critical to its longer-term autonomy and self-reliance, and which could be compromised by an injection of funds early in the life of the group for a project few group members understand or have any ownership of. In this case the facilitator has to manage both the learning of the group and the interventions of the expert—a tricky situation potentially rife with tension and conflict.

Anna Carr notes that the role of the government-funded facilitator was a critical factor in the success of Landcare groups.
with whom she carried out detailed case studies in Western Australia and New South Wales, not least by acting as a 'bureaucracy buster'. Seeking technical information, clarifying regulations, diminishing the administrative workload of the group, linking groups with schools, advising on project submissions, providing a pathway for government to enlist group support in activities such as farm planning workshops or developing a rural strategy, were all important contributions made by facilitators.  

Facilitators are not just faced with challenges at the interface between groups and government agencies, but within and between government agencies. The hundred or so nationally-funded Landcare group facilitators are mostly between 25 and 40 years old, with a great diversity of educational backgrounds and work experience, many from outside agriculture; many of whom are women, almost all committed environmentalists and optimistic about the potential of community participation. They are pioneering a new role in which they are expected to use communication and facilitation skills, with an emphasis on process rather than content, employed on fixed three-to-five year contracts with no job promises thereafter. They share tea breaks in district offices of Ministries of Agriculture and the like, with their regional bosses and other colleagues, groups consisting overwhelmingly of male agricultural science graduates, permanent public servants with years of long service leave and superannuation accumulated in a system dominated by the linear technology transfer paradigm, oriented towards the unquestioned goal of increasing agricultural productivity, in which the scientist and scientific rationality is pre-eminent, and in which the traditional notion of community consultation is a public meeting to announce departmental policy to anyone who turns up, or regular meetings of advisory committees established by the department.

The above caricature is intended to depict a fertile environment for conflict, tension and misunderstanding. There is an obvious clash of cultural interpretations and world views between these two types of actors. Such clashes tend to take place in a context which is home turf to the traditional extension staff. Facilitators often have to seek contact with other facilitators in other regions or states to get positive professional feedback or advice, as their local work environment is often unhelpful at best, and hostile at worst. There is no rule book for facilitators and they are typically isolated, outnumbered in their regions by traditional extension and research staff. Many facilitators are trying to respond to more than twenty
Landcare groups, often over regions much larger than, say, the Netherlands. As most groups have their meetings at nights and their field days/farm walks at weekends, the hours and the traveling distances involved can be horrific—extremely stressful for people with young families.

On the other hand, most facilitators report tremendous satisfaction from seeing improvement in the level of activity, sense of direction, amount of learning, or degree of autonomy and self-reliance in the groups with whom they work, and they greatly enjoy their interaction with active Landcare group members and leaders. Such interaction is often their main daily support, so there is a natural tendency for facilitators to gravitate towards the 'good groups', despite the intention that they work with struggling groups, just as there is a seemingly inexorable attraction between extension agents and progressive farmers.

For regional facilitators, Landcare is typically their main source of satisfaction and their main frustration. The stresses of the job are extremely high, the security is poor and rewards tend to be personal rather than public or professional recognition. In fact the better they are at their job, the more subtle their interventions are, and the greater the independence of the Landcare groups in their area. It is only after they are gone that people recognise the quality and importance of their contribution—which does not bode well for the development of professional standing or career paths for facilitators.

The quality of facilitation support is obviously a key factor influencing Landcare group effectiveness. However, there is a fine line between helping a group to get themselves organised and to access support, and becoming pivotal in the achievement of the group, to the point where if the facilitator leaves, the group fizzles out. One needs to be careful in assessing the performance of facilitators by observing the groups they are working with, as it is easy for facilitators to fall into the trap of running themselves ragged on behalf of the group: 'After all, I'm getting paid, but the farmers are not', creating lots of activity but not really enhancing autonomy or self-reliance within the group—for example, through developing self-financing mechanisms and ongoing links with outside experts and sources of support. Good facilitators tend to work themselves out of a job, withdrawing as groups become self-reliant.

The uncharted territory of the Landcare facilitation role, the questions with which facilitators are continually confronted, and the personal dilemmas many experience in trying to foster community involvement in developing more sustainable farming systems
from within a traditional institutional framework of technology transfer, are illustrated in the following comments.

Colin O’Keefe is a graduate from the Faculty of Agriculture and Rural Development of the University of Western Sydney, Hawkesbury. In March 1992, Colin posed certain questions to 120 of his peers—Landcare facilitators, coordinators and group leaders from all states, at a workshop at the Hamilton Institute of Rural Learning. When he made the comments quoted below, he was a coordinator of the Holbrook Landcare Group in the Riverina district of New South Wales, funded by the National Landcare Program. Colin is now the Landcare Coordinator for the Australian Capital Territory, based in Canberra.

‘How do we interpret our role as coordinator or facilitator?’
Where is our starting point?
In many ways, we are in a unique situation. We are in a very young field of practice, without precedent. This is a position of luxury, for we are able to innovate and to develop roles without the constraints of tradition, mythology or established disciplines.
Are we helpers, ‘gofers’, change agents or emancipators? Or are we reactors to political struggle, driven by clients’ situations and established philosophies? Or must we be all of these?

Why are we in this role at all? Responses may range from ‘it’s a job’ to ‘fixing land degradation’ to ‘building a sustainable agriculture’, and many more. If we see ourselves in the sustainable agriculture camp, then our role becomes much more complicated, unclear and unfamiliar.
If we define Landcare as dealing with land degradation, then we are no different from the traditional extension role, a duplication of the current system if you like, and we are expendable. If, however, we define Landcare as agriculture searching for ways to be sustainable, then our role is much more complex and not so easy to define. It is at this point that we begin to separate from the traditional extension model, as practised by many agencies.

As an overriding theme, I have observed that the most difficult part of my job (apart from working for a committee) is asking the right question for the situation in hand.
Fundamentally, Government agencies are driven from top down by policy and bureaucratic needs. There are,
however, signs that this may be changing. Public servants often work from a position of superior knowledge (eg elitism, control of research focus and limited access), so they believe they know best. As a result of this top-down corporate culture, there have been many 'manufactured' Landcare groups and coordinator/facilitator positions. In this situation, what is our role?

Farmers and those in government agencies who generally acknowledge we face potentially serious environmental problems believe that Landcare is 'fixing' land degradation. These people believe the major task is on-ground works and the major question is who will pay. The underlying assumption here is that current farming practices only need refining. However, if we believe Landcare to be more fundamental and complex, we may well have the dilemma of a technological fix versus cultural change. If this perception and assumption is close to the mark, what is our role?

For decades, rural communities have been declining, with social and economic links directed towards larger rural cities. For these people to refocus on the local community, as Landcare implies, may take considerable effort (it may be analogous to farming returning to practices that exclude chemicals). How do we respond to this situation?

The perception appears to be that coordination, participation and cooperation just appear with the presence of a coordinator or facilitator. We are often expected (implicitly and explicitly) to be sales people for the group leadership and for landcare in general. In this situation what is the group's responsibility, and how could we best respond? Are we manufacturers of enthusiasm?

Though many policies have changed, the practices of some government agencies have not. The 'trickle down' effect in extension theory still pervades; ie, work with the community leaders and the others will soon follow; only train the coordinators/facilitators and the Landcare groups will respond accordingly the way they 'should'. What is our role in this situation?

If we are seen by the groups to be employed by them, and thus recognised as subordinates and not as team members, what is our role?

There is often a clash between the bureaucratic culture of government agencies and the highly individual and independent nature of farmers. These differences often manifest themselves in a power struggle and a mutual level
of distrust and disrespect. In this climate what is our role?
How can we interpret our role so that by the end of our contract we have worked ourselves out of a job by enabling the group(s) to coordinate/facilitate themselves (self sufficiency)? Maybe the group believes we are there to relieve them of their workload (when in fact our presence will mean an increased workload) or are we there to increase the activity of the group? How involved should we become and in what form?

Given that landcare issues often have less priority than financial and social priorities (eg educating the children) could we expect support from academia or elsewhere to assist us with process, understanding and emphasis to help make significant inroads? If so, what form would this support best take?

If the group’s leadership see the social aspects of Landcare as ‘awareness to fix past mistakes’, and the political aspects as ‘a willingness to fix these past problems’, given this shallow, engineering and convenient interpretation, how do we respond?

Groups often resist criticising their structure and process, and then rebuff us for attempting to do so. At the same time we may well be accused of neglecting the group’s priorities of sourcing funds, maximising on-ground works and selling Landcare. What is our role in this situation?

Is there a role for us to influence groups as to what their roles and responsibilities might be? If so, what is the context, form and degree of this type of input?

Farmers as owners of the problems must acknowledge responsibility for their part in the need for landcare. Can we, together with government agencies, do more than facilitate learning? Where does pro-active education finish and top-down manipulation begin?

If the concept of Landcare is about sustainable agriculture, then it will be seen as long-term; culturally, socially, politically and ecologically complex. The longevity of Landcare will also require a more rigorous understanding of how agriculture can prosper whilst enhancing the ecosystem and rewarding the farming community. To say that we do little more than transitional extension is an admission of ignorance about the complexity of Landcare, its relationships with sustainable agriculture and to draw attention to the confusion people have about our role and our lack of support.
Will these problems be overcome with time (accepting teething problems), or will the economic rationalists discard the concept of Landcare before there is sufficient time for it to mature? After all, there has been little conceptual and academic support. We have been provided virtually no input to such fundamental questions as: a) How is change facilitated? b) How can we best operate within current structures? c) How can a sustainable agriculture be achieved?

A clue to this Landcare dilemma and how we fit in, is innovation; not fixing past mistakes or justifying current traditions. This innovation will need to be broad-based in political, ecological, economic and cultural aspects of Landcare.

These questions remain pertinent, and are likely to be so for the foreseeable future as Landcare continues to evolve and as the Australian rural crisis deepens. They are questions which should be exercising institutional minds, but more important, perhaps, the thoughts of people in the field. The roles of facilitators, coordinators, extension staff and researchers are profoundly influenced by the people they work with, by farmers and other land users, as well as by their bosses and remote policy makers. Landcare reflects a change in farmers’ expectations of government and of ‘scientific experts’ and a pragmatic recognition that rural land users may be better off explicitly taking responsibility for resource management issues. Landcare group members have a crucial role to play in defining the roles of the publicly-funded people with whom they interact.

**CASE STUDY**

**THE 'HUMAN YELLOW PAGES'**

Local government is probably the most crucial layer of government for assisting Landcare groups, yet it has been the most neglected to date. A rural shire usually has a works crew, earthmoving and other equipment, administrative and clerical staff, a depot and offices (often grand), most commonly under the joint control of an engineer and a clerk, who report to a predominantly male council made up of senior members of the farming community, a few business people from the local town (often at least one estate agent) and perhaps a long-serving local school teacher or public servant.
Rarely epicentres of environmental enlightenment, rural shires can nevertheless make an enormous contribution to landcare and improved land management within their area, often without spending much extra money. Local governments are closer to the voters and to land management issues; they have potentially useful labour, equipment and office facilities to assist Landcare groups, as well as significant direct and indirect influences on land management. Many councils seem unaware of the links between good land management and their own expenditure on infrastructure such as roads, culverts, drains, bridges and water supplies—let alone the less obvious links such as farm productivity, environmental health and landscape amenity. Local government is in a great position to set an example of environmental responsibility in its management of open space, rubbish tips, gravel pits, water supplies and their catchments, sewage treatment, fire prevention works, road reserves and watercourses, and in its considerable influence through planning schemes and development approval procedures. But unfortunately, landcare initiatives at the community level of government are the exception rather than the rule and many Landcare groups despair at the attitudes and behaviour of their local council.

However, most rural councils lack appropriately trained people, which limits their capacity to play a constructive role in land management. This situation could be improved if central governments were to allocate additional resources to landcare through local government, as the following case illustrates.

In 1990, Christine Joannides was employed by the Shire of Kaniva in the Victorian Wimmera as a Community Landcare Facilitator, the first appointment of a landcare facilitator by local government in Australia.

One of the major changes in the Kaniva area since the Second World War has been the shift from grazing to cropping and the consequent increase in run-off. This was highlighted in wet years such as 1987 and 1988, when most of the rural land in the municipality was inundated and many roads were impassable, costing millions of dollars in damage to Shire infrastructure and in lost production, with incalculable damage to the long-term productive capacity of soils and to water quality. Most farmers in the area still relied heavily on cultivation to reduce weeds. Cultivation compacted the soil and limited water infiltration. Excessive run-off from the upper
slopes flooded more productive lower lands. In effect, poor land management was contributing to lower agricultural returns and higher costs imposed on the whole community, and consequently to social and economic decline. The Kaniva Shire Council could see that developing and extending more productive and sustainable land management practices, particularly in the upper catchments of the Shire, was one of the keys to arresting the general decline in the Shire.

Kaniva Shire successfully applied for National Landcare Program grants to study these land management problems and to employ a Landcare facilitator to improve community awareness and encourage farmers to adopt better farming practices. A steering committee involving the Department of Conservation and Environment, Department of Agriculture and Rural Affairs, the University of Melbourne Centre for Farm Planning and Land Management (primarily Dr Lea Jellinek), the Wimmera Conservation Farming Association, the Kaniva Branch of the Victorian Farmers Federation, and local community groups was set up to oversee the project. Their objective was to develop and implement programs for the repair and sustainable use of land in the Shire.

When Christine Joannides was first appointed, she found herself in a vacuum, among two to three hundred farmers who did not want to know her and who were cynical of any government departments or extension. They felt Chris was just another young upstart, fresh from university, with all sorts of naive, perhaps ‘greenie’ ideas who had been employed by the Shire to tell them what to do. They thought, ‘Another one of those “facilitators” (paper shufflers) wasting taxpayers’ money. What does she know about Kaniva, farming and the farmers’ needs?’

The basis of Chris’s approach has been to listen to farmers—to find out what they know and what they want. Although she was ostensibly employed to set up catchment management groups to encourage farmers to reduce cultivation, she first needed to gain the trust of the farmers and the Kaniva community. She needed time to get to know them. She needed to visit them in their homes, on their farms, in shearing sheds, at the pub, school, fire brigade, church and during footy on Saturdays. In two months she made more than 50 farm visits, often dropping in unannounced. She needed the flexibility to work weekends and nights. Four leading farmers in the district were prepared to give Chris guidance and advice whenever she felt lost.
Says Chris: ‘I realised early on that the pub was a great place to meet farmers, and that this was where many exchanged ideas about farming and found out what was going on in the town. I was fortunate that on Friday afternoons I could talk to retired farmers and in the evening talk to their grandsons, giving me a wide cross section of views on farming.’

Chris’s immediate aim was to understand the farmers’ lot, to shuffle in their boots and to respond to their needs rather than try to create groups or impose ideas upon them. There seemed little point in forming new groups when people were already fully occupied farming and participating in existing social clusters and clubs.

After one year, Chris started to gain acceptance and acclaim for the work she was doing. Farmers rang her with all sorts of queries ranging from snails in crops to the growing of garlic and coriander. She sought answers by contacting experts in the field. She became the farmers’ link person to the outside world, sifting through the mass of data and finding out which consultant, chemical representative or farmer could be of assistance. Before long, Chris’s contacts extended not just throughout the farming community of Kaniva but in Victoria, South Australia, Western Australia and New South Wales. Dealing with non-wetting sands, snails in harvests or seeds bursting may not have seemed relevant to catchment management groups and minimum tillage. But in gaining the farmers’ trust and understanding, stimulating their awareness and interest, they became more receptive to improved farming practices. For the farmers it was like a stepping stone to a better understanding of their farms, their problems and how they fitted into the landscape.

In the few years that Chris has been operating, she has built a strong following. With community support, Chris has:

- a regular column in the local paper—‘Chris’ Column’;
- a window in the local bakery for displays concerning farming issues such as clover types, particular weeds, root diseases, tree guards or cropping practices;
- encouraged and helped new Landcare groups to form;
- talked to many community meetings in the region, promoting awareness of land degradation and its implications;
- helped school teachers, individuals, landholders and groups with information, advice and networking;
- organised bus trips so that people can see first-hand what others are doing;
Supporting Landcare groups

- organised displays at agricultural and pastoral shows;
- coordinated whole farm planning workshops for Landcare group members;
- assisted farmers to convert existing machinery for conservation farming.

Of course Chris did not have the answers for every technical issue. Taking weeds and herbicides for example, she had tried to fathom this complex technical area but despite her agricultural science training she found it a minefield. Instead of answering questions herself and possibly getting them wrong, she referred farmers on: to the local chemical representative who was skilled and specialised; to Peter Ridge, a respected private consultant in the Wimmera; to Dr Harry Combellack, an expert on effective herbicide use with the Department of Conservation and Environment; and to Alan Postlethwaite, a farmer who has weed control, spraying and tight crop rotations down to a fine art.

Local farmers speak of Chris with great respect and fondness. One describes her as 'the human Yellow Pages. She's got all the contacts and telephone numbers in her office. If you've got a worry, one phone call to Christine and a day or a week later there's the answer.'

Over two years Chris has helped to make unapproachable people more approachable and helped to tie up many loose ends about farming in Kaniva. She has given the farmers confidence that there is somebody they can turn to who will seek answers to their many questions, wherever those answers might be. But working for a committee is never straightforward. Chris has to marry her priorities with those of the Shire, which is difficult, not least because, as in most shires, there are diverse, conflicting views, and communication and debate about priorities is not always open and transparent. For instance, Chris has identified an urgent need for someone to work with young people in and around the town of Kaniva as an issue which directly influences social cohesion in the district and ultimately land management. She would like to work much more with local youth. But this is not seen as such a priority, or as relevant to landcare, by some of her employers, so Chris has had to make a choice. Tensions such as this are the daily lot of a Landcare facilitator.

Chris's latest projects are to promote 'Right Rotations' and 'MEYcheck', MEYcheck (Maximum Economic Yield Check
system) is a crop-monitoring program designed to help farmers better understand the factors which influence the yield and profitability of their crops. For example, sap nitrate tests for cereals and canola are used to determine whether top-dressed urea is likely to be profitable. All assessments of crop performance are based on water use efficiency rather than on yield. The water use efficiency of a crop is the amount of grain produced for every millimetre of rainfall (after allowing for evaporation) received during the growing season, relative to the theoretical yield if all available rainfall had been used by the crop. The aim is to identify key factors which determine crop yield. Results to date show clearly that early sowing resulted in the best performing crops and that farmers who had practised stubble retention were able to take advantage of better structured soils to sow dry (before the autumn rains). There are six discussion groups involving about 30 farmers with three major soil types involved in this project, with which Chris has enthusiastic technical support from Dr Harm van Rees, a senior research scientist at the Centre for Land Protection Research at Bendigo.

Chris is also working with the Country Education Project to organise a course for farming women called 'Paddock to Plate', which has been developed by the Department of Agriculture at Bendigo and TAFE. The course covers all aspects of agricultural production, processing and marketing and is designed to be as 'hands-on' as possible. It is initially being presented in the north-western Victorian Shires of Kaniva, Lowan and Dimboola.

ChrisJoannides' work as a Landcare facilitator has filled a very important information void in the rural community in the Kaniva Shire. Changes to conservation farming practices have occurred quickly and awareness about land and resource conservation has increased dramatically. Chris has been a pivotal person in integrating the plans of the Shire with the desires of the landholders for the better management of resources and the improvement of economic viability.

Chris sums up her approach as follows: 'There are three things which I always remember in my dealings with farmers. The first was to adopt the attitude of farmers being my teachers. The second was not to push anything. The third was that people love to have someone who is interested in listening to what they are doing.'
An aerial view of the alley farming system on 'Paradise'.

TED LEFROY

Experts snuggling in beside a hedgerow while debating the value of shelter.
Lyn and Barry Stirling sorting out seed collected on their farm.

Right: Effective Landcare groups recognise the inputs of their members and people are proud to be associated with the group.

Opposite page: Bob Purvis on 'Atartinga': the tree next to him is younger than the 22-year-old earthen bank, and is enjoying the extra nutrients and water trapped by it.

ANDREW CAMPBELL
Christine Joannides, Cr Rod Coutts, Cr Graeme Sibson and Wallace Meyer in a direct-drilled wheat stubble near Kaniva.

Members of the Telopea Downs group trying to revegetate a sandhill with seed-laden branches which were later burnt to encourage regeneration.
Supporting Landcare groups

The perspectives of Chris and Colin on Landcare facilitation are of course unique. For each circumstance there are different bio-physical challenges in diverse social settings and the nature of the facilitation role varies accordingly. It is probably influenced to an even greater extent by the personal characteristics of the facilitator. As Colin noted, there is not yet a mythology or tradition or other normative influences in Landcare group facilitation. At this stage we can still observe a great diversity of approaches. This is very fitting considering the fluidity and diversity of the Landcare movement.

At the level of the individual Landcare group, another quite distinct role is emerging to complement those of facilitation and advisory work.

**Coordination**

When Landcare groups have a fair idea of what they want to do and how they are going to do it; the amount of voluntary time which can be put in by the few people who do most of the work often becomes a constraint. At this stage a coordinator becomes useful. The role of the coordinator is to sustain the momentum of the group, to keep members involved and to ensure that group plans are implemented. Coordinators assist voluntary group leaders to organise meetings, take an active role in planning and managing group projects, keep less active group members interested, provide a link between group members and sources of technical advice and do public relations and liaison work on behalf of the group.

Coordination of resources is central to this role—for example, organising farmer contributions to projects, seeking assistance from outside groups and organising cooperative efforts between a number of farmers or with other groups. The coordinator demystifies technical issues and provides ready access to straightforward, practical advice at the local level.

In many instances, particularly in southern states, the coordination role is played by a former group leader, who is paid on a part-time basis to put more time into Landcare group activities than would otherwise be possible. This is a great arrangement where it works well. Because they are local, coordinators' expertise tends to stay in the area for much longer than departmental advisory officers, who tend to be much younger and very mobile, as the promotion and reward systems within most state agencies make it very difficult for people to pursue a career within extension without having to re-locate regularly or move to a desk job. The ongoing role of local group coordinators can relieve the administrative burden from the government agency, giving the local community owner-
ship and a degree of what Niels Röling\textsuperscript{208} refers to as ‘counter-vailing power’ or clout.

Jill Smith is a Landcare Extension Officer with the Department of Conservation and Natural Resources at Benalla. In the quote below she discusses aspects of the emerging relationship between extension staff and groups where a coordinator is involved.

\begin{quote}
The old role of an extension officer would have been to decide an extension strategy for an area, run an extension program and run all those activities yourself to arouse interest or change attitudes. These days the group takes all the responsibility for running field days and producing newsletters. It rounds up a lot more interest. Before the group started, an extension officer may have seen six or seven people out in their area. Now they see 50 or 60.

To balance that, I don’t have to spend time organising meetings, field days, farm walks. I don’t have to do a lot of out of hours ringing up landholders. Angus [Howell, the Warrenbayne Boho Landcare Group coordinator] and the group take the responsibility for organising all that. I don’t decide what direction the group is going in. But, because my groups are very active and doing exciting things, I’m involved in lots of exciting projects and I don’t have to take responsibility for a lot of the boring things like making sure there are white boards and overhead projectors at the meeting, booking buses etc.

You learn a lot from the people you go and visit. You see what works and what doesn’t work in an area and you gradually build up more information in that way. I think you learn just as much from the farmers as you do from reading and doing courses.

Landcare has been tremendously successful in raising awareness. The problem is providing the technical solutions. There are solutions but they’re not always economical and don’t always work as well as they should. [Landcare groups are] coming up with alternatives. They come up with ideas and we help them find out if they really do work—get them to try it out, get it researched.

We’re getting there. Things are improving all the time. Groups are easier to work with as far as getting change and adapting systems with changing technology.

I love my job.
\end{quote}

Like facilitators, the one hundred or so Landcare group coordinators are also pioneering a new role, but at a local scale with a
Supporting Landcare groups

much more tangible focus and clearly defined responsibilities than the regional facilitator. The coordinator typically works for one group only, with an area of operation and priorities determined by the group. For many coordinators, the $10,000 or so per year that they receive for their two days per week as a coordinator is crucial income which enables their family to remain viable on their own farm, and which rewards them for time they were probably contributing voluntarily anyway. They usually learn on the job, receiving advice from extension agents, regional facilitators and other coordinators, and attending occasional Landcare training activities. Many say they have learnt an enormous amount (both about land management and about people) in their role as a group coordinator, which most regard as an extremely rewarding job. They tend to be regarded as an asset rather than a threat by district extension workers and regional research scientists, as they can facilitate access to many farmers, doing the organisational back work. The expert just has to turn up on the day. Consequently, most Landcare group coordinators enjoy a constructive relationship with relevant government agencies in their area, and are not as exposed to the bureaucratic hassles that are the daily read of facilitators.

However, there is always potential for conflicting interests within even homogeneous Landcare groups, and these tend to be the focus of group coordinators. It is relatively common for a group to be dominated by the personal agendas of one or two individuals—a brittle situation. The coordinator needs to be able to work effectively with these dominant individuals, while attempting to involve other members and people on the fringes of the group in decision making and group activities.

Some Landcare groups apply for funding for a coordinator and, if successful, sit back and relax to watch the coordinator perform. Just like facilitators, if group coordinators are not careful, they can do too much on behalf of the group, performing many group tasks themselves. In such cases, group meetings are dominated by the coordinator’s report, membership tends to decline and the group is extremely dependent on the coordinator for initiative and activities. This issue is a key focus for facilitation training to assist coordinators to manage their own work environment for their own benefit and for the good of the group. In general, however, group coordinators are at the constructive end of Landcare, working for groups which know what they want to do, and gaining a great deal of personal satisfaction in the process.

Kate Walsh made the following comments at the Hamilton workshop for Landcare facilitators, coordinators and group leaders in March 1992. At the time, Kate was coordinator of the Strzelecki
Ragwort Control Group, in the steep, wet hills of south Gippsland. She has since become one of six regional facilitators working for Greening Australia Victoria, using similar skills to those described here, but over a wider area, and with a primary focus on the preservation, enhancement and establishment of native vegetation in the region for both agricultural and ecological reasons. Kate has been farming in the area for fifteen years.

I come from steep, very fertile, high rainfall country with intensive dairying, grazing, and hobby blocks. Ragwort and blackberry compete with our pastures and, if not controlled, overwhelm them. Weed control is a legal obligation but enforcement has become more and more difficult. One-third of the landowners are absentee.209 For the past 90 years or so, clean farms have been infested by seed from neglected land which has caused enormous resentment against neighbours and governments.

I am one of seven local Ragwort Control Group Coordinators in our region. We are employed part-time for five years by the Department of Conservation and Environment.210 Formal qualifications are not relevant and we work from home. To our communities, we are coordinators seven days a week. Much of our work is evenings and weekends. We are a communication link within the local community and between the Department and the community.

Employing me was actually a really brave move of the Department. I get paid for fifteen hours a week. I am responsible to my community and the department. The community is all around you and you really feel the responsibility.

A local coordinator can say ‘we’ (eg ‘we are responsible for our roadsides’) instead of ‘you’. This brings ownership of problems and solutions back to the community. We have local knowledge and perhaps some intuition for what is needed.

At our first meeting, my community set the priority—to stop ragwort flowering and seeding and to control blackberry. Every landholder must be involved and part of my role is to help motivate people to do this. I use what skills I have and then draw on the skills of my committee or Department of Conservation and Environment staff to complement mine. Some useful approaches include: encouragement, a newsletter, personal persuasion, peer group pressure, the ‘snowball effect’, respect for the past, people helping each other and sharing equipment, incentives and informal contact.
After four years, ragwort and blackberry have definitely decreased, use of herbicide has decreased, aerial spraying within the area has ceased. Everyone in the group makes a major effort to control ragwort.

A lot of land management problems are people problems. There's one bloke who'd never planted a tree. I could see for a year or two he was watching us and every now and again he would mutter, 'Ah, I should have started planting years ago', but he wouldn't do it. Anyway, yesterday I was talking to him on the road and I just had this feeling, so I said, 'You wouldn't want some trees this year would you?' and he said, 'Oh, I might take one or two hundred.' He's done three hundred so far and that's great. I had to appear really laid back and calm and not excited, but I was really just about jumping out of my skin about the triumph because he had just a totally blank hill!

When we started the group everyone was in their separate little boxes. But weeds and erosion and salinity don't respect boundaries and similarly it doesn't work if we put little compartments around ourselves. The thing about the group is to break down those compartments, to realise we're all part of a continuum. We find the common ground and go for that.

Being a local coordinator can be very intense and unrelenting and it is important to give oneself space and time. It is also essential to keep aware of the broader picture. The VFF/Greening Australia publication, Trunkline, has helped the group see themselves in the context of the broader picture.

I believe by helping the community tackle their priority problems, I have created a climate where other very important landcare problems can be acknowledged and addressed.

We've suddenly realised that everything is fragile, our incomes and our future. It has encouraged lateral thinking. We've kept up, and in some ways even increased, the momentum during this recession.

**Extension**

If the profile of government extension staff juxtaposed against facilitators earlier implies criticism of extension officers, it is unintended. Their homogeneity (in terms of education, cultural background and gender) was highlighted in a national study reviewing
training needs for professional natural resource managers. Senior administrators admit that the selection of extension staff from the 1950s until the 1980s in most states was biased heavily towards agricultural science graduates from one or two key institutions in each state, with additional unwritten, informal selection criteria such as an ability to drink beer and play football and cricket.

The resilience and seductiveness of the traditional transfer of technology paradigm from the perspective of government extension staff is understandable. The goal of increasing agricultural production has only recently been modified to increasing productivity. The concept of sustainable agriculture is still adolescent and pliable. At this stage departmental responses to the issue of sustainability are still mainly in the glossy brochure stage. Substantive change in operational practice (with the exception of responding to Landcare and declining budgets) is patchy. The predominance of the goals of increasing production and productivity were (and still are in many circles) widely accepted and supported throughout the community. Phrases such as ‘Australia rides on the sheep’s back’ are part of national folklore, although increasingly less accurate. Agricultural research and extension, until the 1980s at least, was seen to be a vital contributor to national economic growth and standards of living, and its practitioners were (and most still are) extremely comfortable with this notion.

As mentioned above, diffusion theory suggests a population of farmers normally distributed with respect to their rate of adoption of any particular innovation over time, a dogma which endorses the natural tendency of extensionists and researchers to work with the top fifteen to twenty per cent of farmers in the belief that their example leads to adoption among the rest of the farming community. Agricultural economists have been a further buttress in the dominant transfer of technology paradigm, arguing that as the top twenty per cent of farmers are responsible for a disproportionately higher percentage of agricultural production, and as declining terms of trade will squeeze out inefficient producers anyway, it is economically rational to work mainly with the better farmers.

From the perspective of our archetypal extension worker (a 40-year-old agricultural scientist, ex-footballer with a beer belly, well known for his ribald jokes and detailed knowledge of crop varieties and herbicide mixes), Landcare is a fuzzy, mildly threatening notion. Initially seen as yet another reflection of trendy environmental concerns in the cities and cynically interpreted as political vote buying, Landcare for traditional extension staff can be a crystallisation of unwelcome change.

Picture the new, young, nationally-funded Landcare facilitator, with
her training in journalism (and unabashed ignorance of herbicides—‘she can’t even drive a tractor!’); her new nationally-funded station wagon and relatively generous travel budget; her membership of the Wilderness Society; her feminism; and her frequent trips away for training courses in ‘group dynamics’, ‘conflict resolution’, and ‘community consultative processes’. When she arrives in their region, traditional extension staff are rarely indifferent. They may welcome their new colleague as a valuable addition to meet an urgent need to service community expectations, appreciating the different skills required and the need for fresh approaches in extension. Or they may resent the resources allocated to Landcare and its implied criticism of the traditional focus on agricultural production, disparaging the lack of experience, technical knowledge and practical capabilities of the new breed called facilitators.

There are many government extension staff willing to acknowledge the poor environmental record of conventional agriculture, and also to acknowledge that effectively tackling complex environmental problems at a regional scale means more than working with the top farmers and it means more than transferring technology. But, even for these staff, the contrasts between their own training and skills and the skills and insights required to help a diverse community group understand a complex environmental issue, to develop ownership of this issue and to take collective responsibility to try to resolve it, can be unsettling. For staff who prefer to regard environmental concerns in agriculture as peripheral, it is easier to criticise Landcare as ‘populist’ and ‘cuddly-feely’ than to confront the changes required to adopt new extension approaches, let alone to question extension itself, or, heaven forbid, the role and nature of science.

Of course many extension workers and researchers interact with Landcare groups. In fact they remain one of the most important sources of technical advice, behind other farmers, ABC radio, newspapers and magazines. Many extension workers and researchers see Landcare groups simply as a more efficient way to deliver essentially technical recipes to a larger audience—in other words to continue as they have in the past, but with groups rather than individuals. As mentioned earlier, some officers have used Landcare groups to obtain funds for their own pet projects. Others, however, can see the potential of community groups to tackle issues in a way that was impossible in the past, and get a kick out of working with groups rather than talking to groups. These staff see the value of the training offered to facilitators and are keen to gain similar skills themselves. For them, Landcare is one of the best developments in their professional career, adding a new dimension to their work.
There are also some extension projects, complementary to Landcare, which underline the emergence of the participation paradigm, allowing us once again to sample the views of some extension practitioners and the implications of this paradigm shift for farmers and scientists.

**CASE STUDY**

**FARM ADVANCE**

Farm Advance is a network of groups in north-central Victoria working towards the ultimate goal of sustainable land use through a productive agriculture. The city of Bendigo is in the south-east of this region, which extends from grazing country in the higher rainfall areas south-east of Bendigo to cropping on the red-brown earths north and west of Bendigo. Roughly 2000 farmers are attempting to maintain a livelihood in this region from a diverse range of enterprises. The Farm Advance project was conceived in 1988 at a workshop organised by the Centre for Farm Planning and Land Management of the University of Melbourne. The workshop brought together farmers, agribusiness, the financial sector, scientists working in extension and research with relevant government agencies, and policy makers, to explore opportunities for developing new approaches to research and extension for sustainable agriculture in the region. Locals were convinced that the region had missed out on quality research activity over preceding decades owing to its being too far from the Department of Agriculture Research Institutes at Rutherglen and Horsham. Furthermore, they felt that findings from Rutherglen or Horsham did not tend to transplant well to the hard-setting red-brown earths and different growing conditions of the mixed farming country in north-central Victoria. Farmers wanted more research and more relevant research, but they did not want to see millions of dollars spent on buildings and a research station covered with tiny paddocks, plots and laboratories.

A small steering committee consisting of representatives of each of the above groups was formed to develop some of the ideas floated at the workshop. Nigel McGuckian, a local agricultural consultant, was engaged to look at other extension and research projects around the country to see what lessons could be learned and how the best features of existing activi-
ties could be brought to bear in a new approach relevant to
the particular needs of the region. He examined current di-
rections in the literature on extension and research, studied
nearly twenty existing projects relevant to the brief, inter-
viewed hundreds of local farmers by telephone and discussed
ideas with key players in depth.

The local community was then involved in getting the
groups up and running. Farm Advance has a management
committee that consists of five farmers, representatives from
rural industry groups and representatives from the Depart-
ment of Conservation and Natural Resources (DCNR) and
Department of Agriculture (DA). There is a full-time project
leader based at the DCNR Centre for Land Protection Re-
search (CLPR) and there are five group coordinators based in
the community. There are 33 Farm Advance groups (some of
which are also Landcare groups) with an average size of about
40 active members. All 2000 farmers in the area receive a
regular newsletter. The groups hold regular field days, farm
walks, training courses and ‘Better Farming Bus Tours’. They
draw on the services of the regional DCNR and DA offices as
well as a network of private consultants. They liaise closely
with the CLPR and are involved in a range of their monitor-
ning and field trial programs.

Farm Advance is a pilot project, the running costs of which
have been met by the National Landcare Program. The group
plans to be self-sufficient in the long term. Members are now
required to pay a $50 annual membership fee and sponsorship
by local companies is becoming more important.

According to Harm van Rees:

'It is very successful. I know that as far as our work is
involved we would not have anywhere near the
impact that we do in the community if it was not for
Farm Advance. We've got many, many more farmers
involved purely because we have a very dynamic
group of coordinators ...

The value of having the farmer as a coordinator (ie
local) as compared to having somebody with a red
number plate is enormous. Farmers see you're
coming from the government and stand back to see
what this guy is about ..., whereas a local doesn't
have those kind of problems ...
Geoff and Merna Curnow farm near Laanecoorie, 36 kilometres west of Bendigo. Merna is chairwoman of Farm Advance:

Several people around here have made the same comment to me, without any prompting I might add, that they have learnt more about farming ... in the last two years with Farm Advance than they have in all the 30 years they’ve been farming ... because it’s driven by the group it’s the sort of things that are relevant to them and what they want to see. We meet in the local hall, in the paddock, in the shearing shed, wherever it’s appropriate.

FarmFacts and Farm Advance actively encourage the participation of farm women, when before it wasn’t the place of a woman to be at a farm meeting. The margins of farming are a lot thinner than they used to be. The volatility of interest rates and borrowing money has been the other problem ... The sums just didn’t add up. Everybody was borrowing. A lot of it’s about not making farmers so isolated ... 

This extract from an interview with Geoff and Merna illustrates the inextricable intertwining of farmers’ economic circumstances with technical issues and social issues, and consequently the necessity for any approach to research and extension to be similarly integrative. There can be no blueprint for such an approach. However, some key general principles of the participation paradigm are: the involvement of a broad spectrum of land users at all stages in planning, priority setting and implementation; a supportive institutional setting with scientists as co-learners and facilitators; and a creative and participatory learning environment. All these are exemplified in the Farm Advance project. To illustrate that the same principles can be applied in a different way with different emphases, let us consider the SoilCare project, an hour or so east of Bendigo.

CASE STUDY

SOILCARE

SoilCare is an integrated extension/research project which was initiated in 1988 by the Department of Agriculture at Benalla.
According to John Avery, an experienced extension specialist and one of its architects, SoilCare explicitly attempts to reconcile the resource model of extension education with institutional requirements for policy-directed (ie ‘top-down’) definition of extension objectives. The resource model was developed by Barrie Bardsley at the University of Melbourne. It posits that most farmers’ learning activities are self-directed. An effective extension system must recognise the existence of a shared pool of knowledge to which farmers, scientists and others all contribute and from which they learn; and thus extension should be concerned with creating learning situations and developing skills to enable relevant knowledge to be shared. SoilCare further accepts that the various stakeholders—different types of farmers, scientists, policy-makers, Landcare groups, agribusiness and research sponsors and so on, all have different interests and objectives and thus different requirements of the research and extension system.

In contrast to Farm Advance, which emerged from needs perceived and expressed by farmers, SoilCare was conceived and initiated by the Department of Agriculture, but with an aim of transferring some of the ownership of research and extension priorities and effort to farmers themselves. It has been funded primarily by Victorian government agencies, the National Landcare Program and the Grains Research and Development Corporation.

SoilCare links 14 farmer discussion groups, based on social neighbourhoods, each with 30–40 farm families, with demonstrations and trials at a paddock scale on farmers’ own properties. In some cases the trials are rudimentary, involving farmers measuring yields from particular treatments using calibrated portable field bins at harvest. In other cases, trials are properly replicated, designed and supervised by scientists from the research station at Rutherglen. The key point is that farmers in their local discussion groups have the key role in asking research questions and in seeking and refining the answers. Groups negotiate their discussion program with extension staff; they determine the location, focus and design of paddock-scale trials and demonstrations; and they organise special interest workshops and tours. Individual members are encouraged and assisted to test new ideas on their own farms, the results of which are then discussed in the groups. A stubble retention machinery loan scheme is targeted through SoilCare groups.
In the words of John Avery:

I’m totally committed to working with groups, because it’s a far more effective way of helping people develop their decision-making skills and helping them come to terms with where information is useful and where it isn’t. It’s just a much more powerful way of doing extension.

When asked, farmers tend to say the same thing [about working in groups]. Because they were sharing information themselves, as well as accessing what we [scientists] knew, they were learning a hell of a lot more than they ever did when they relied on individual contact.

We are working much more in the role of facilitating the exchange of information. We are only part of the farmer’s information system.

Cathy Botta is an extension officer working most of her time with SoilCare groups. Cathy’s thoughts encapsulate many of the issues involved in facilitating learning processes in farmer groups, as opposed to transferring information within the traditional technology transfer model of research and extension. In particular, the emphasis on learning together, rather than distinguishing between farmers and so-called experts, creates a very different context for the interaction between a government ministry engaged in research and extension, and the people with whom it deals.

... We went through quite a deliberate program of discussion in the first year before the demonstration area was set up. Everyone had a shared understanding about the level of knowledge already in each group. We also asked each group to nominate the major soil problems that they felt were limiting production.

So that was a good starting point to say, ‘OK, let’s set up a demonstration area investigating techniques which could help us overcome these problems.’

The group chose a paddock for the demonstration that the group felt they could learn the most from. Each demonstration area is different because it
reflects the group and their problem. That was why we went to locality-based groups—to get away from the reaction to field days, where you hear farmers saying, 'Well, you know that’s fine, but it wouldn’t work back at my place, because my soils are different.'

Farmers do all the emergence counts, the weed counts. We only do the soil testing. That’s been very important because then they own the results. The whole group does it. We have measure sticks and clip folders and pens and papers and off they go into the paddock. [One hears comments such as] ‘Gee, it’s amazing what you see when you walk through a crop isn’t it?’ Many of them after those sessions have gone back to do their own crops, looking at plants per square metre and the weeds and things like that. They notice things like the direct drill sites were really firm and could take more rain, whereas on the other site we were up to our kneecaps [in mud].

Since the first year it’s been more and more the group determining what we’re going to do on the demonstration sites and what we’re going to do as a discussion group. Each group will set its own goals, direction and action plan. The whole aim is that groups would develop and take on wider issues and in fact become Landcare groups. In the long run they’ll be pretty much self-determining and self-running and our role will be servicing them.

We have a newsletter that goes out to every landholder. It’s sent to both partners. A lot of women have said to me that that was a thing that they were really impressed with. All the information is addressed to both partners and that’s something that they really appreciate.

Each year I organise a little bus trip for each group around their own district, looking at different people’s crops and pastures. It stimulates an enormous amount of interest. They don’t know that so-and-so had sown Phalaris and they look at it and they say, ‘Wow, that’s great!, so what was the variety? What was the seeding rate?’ and they’re asking him, not me. It helps people recognise the skills and the knowledge that they have in their own district.
In terms of extension it would have to be the most effective, because you've got farmers in their natural groups. Basically I could talk until I was blue in the face about the advantages of direct drilling and stubble retention, but if one farmer in that group said, 'Yeah, I had a go at direct drilling . . . ' you could hear a pin drop. When one farmer talks about his experiences, they lock onto that . . .

Demonstration sites give them hands-on experience without their having to take the risk themselves. One farmer said to me the other day: 'The biggest thing I had to overcome was after the first summer rain. I was sitting inside and every one of my neighbours was out on their tractor [cultivating in preparation for conventional crop establishment]. You have no idea the pull of that. I almost had to chain myself down.' I would never have considered that. It really shows how important it is to work with many of the people in a district together, because it creates a supportive atmosphere for change. He was feeling very isolated.

I see my role as a facilitator of learning. Sometimes that may mean that I have some information to offer the group, sometimes I say, 'Well what do you reckon; what's been your experience?' If you are working with discussion groups, then your role is to promote discussion. If you are answering all the questions, you are not promoting discussion. If they are going off on a tangent, then you say, 'Well look, my information is slightly different, let's discuss it.'

A lot of us have underestimated the knowledge within the farming community. Given half a chance they come up with the right answer. I really enjoy working with the people. They're great people, they're lovely, they're fantastic. You get to know people really well, you get to know both partners . . .

There are many problems that can't be tackled by individuals—like drainage or remnant vegetation. They're noticing that their trees are dying and want to do something about it. They recognise that, unless they work as a group, it's just going to be hopeless. The task is just too enormous for an individual.

As for the future—I would have to say that train-
Supporting Landcare groups

ing of extension officers in facilitation is just vital. Understanding people, understanding how discussion groups work, understanding how you can get consensus. I think it’s vital for people who are working with groups that they know that they have got a tool bag. You’ve got to have people skills. Some people have them naturally, but there are so many things you can learn about how people learn, how adults learn. It just changes your approach. Instead of seeing farmers almost like kids and you’re out there teaching them, you’re treating them as adults.

These quotes illustrate a dynamic, evolving relationship between extension staff and farmers in Landcare and associated initiatives such as Farm Advance and SoilCare. The impacts of these changes are clearly not confined to farmers. They evince important changes in the roles and emphases of professionals in agriculture.

Research

Much has been made of the need to change farmers’ attitudes, and of the crisis in agricultural extension which is contributing to perceptions that useful research is getting dusty on scientists’ shelves while farmers plod on oblivious using land degrading practices. It is often said that if we only applied what is already known we would be way ahead. This may be so, but it assumes that answers exist and that it is merely a matter of getting farmers to apply them.

Reviewing the history of major land conservation practices in Australian agriculture and summarising recent research on direct drilling, stubble retention and tree planting, Neil Barr and John Cary assert that the major determinants of the adoption of a conservation practice are its attributes. If the practice is profitable, low risk and easily incorporated into the farming system it will be quickly adopted, whereas risky or unprofitable practices are unlikely to be widely adopted. Complex or difficult practices may be adopted, but only slowly. The following quote is illustrative:

Perhaps our greatest concern is with a widespread belief that the most important task to achieve a more sustainable agriculture is the raising of community awareness and changing of farmers’ attitudes to their land. Our retelling of agricultural history helps to provide an understanding
of the barriers to adoption of sustainable land use practices. A few practices have been widely adopted and have been of major importance in sustaining agricultural land use in Australia. The clearest feature of these technologies was that they offered realisable advantages to the landholder. The benefits of superphosphate drilled with wheat were clearly obvious and testable. Farmers saw the results in one year. Improved pasture offered the prospect of dramatically improved production, though because it entailed greater changes in farm management it took longer to be fully accepted. Ley rotations restored 'grainsick' farm land and improved yields. The implications of these observations are simple yet profound. What is required are profitable and practical conservation farming techniques and management strategies. Where these are not available the best assistance is research directed at producing and promoting practical and profitable solutions, rather than a reliance on evangelical calls to better farming and changing attitudes. General community awareness is needed to maintain support for the funding of this work.

Do we really have practical and profitable solutions which can be easily incorporated into farming systems for: irrigation-induced salinity? vertebrate pests (including foxes and cats) in the rangelands? woody weeds in the rangelands? soil acidification? nutrient contamination of watercourses and wetlands? rural tree decline? No, we do not. Solutions either don't exist, are impractical or are not profitable.

Maybe this is because we are trying to refine existing systems to become more sustainable, rather than starting with a clean sheet of paper and asking ourselves, for each land type, what a sustainable system would look like based on some elementary ecology, much as Dean Melvin did on 'Paradise Farm' in Chapter 6.

Promising directions are apparent. In some cases they have been for many years, but there is massive institutional inertia when it comes to thinking about new and potentially more sustainable ways of using the land. For example, developing grazing industries based on native herbivores (ie developing markets and management systems for kangaroo and emu) is one potential solution to rangeland degradation, yet how many scientists are working on this compared with the number trying to make the rangelands grow more beef? Various forms of agroforestry (getting perennials back into the sys-
Supporting Landcare groups

present solutions to a mélange of land degradation problems in agricultural areas. Developing profitable uses for the harvested products is a function of research (viz, technology for ethanol production), but this research is unlikely to be done by institutions whose dominant agenda for the last few decades has been breeding new varieties of crops and pastures, or controlling internal parasites in sheep.

More sustainable farming systems will almost certainly be more complex. Quick fixes for environmental problems are unlikely. Taking a mission-directed rather than problem-centred approach, moving towards sustainability in terms of social cohesion, profitability, water, nutrients, energy and biodiversity, even at the paddock scale, will require a great deal more knowledge than we have gained to date. But it also requires an open mind and a willingness to consider substantially different uses for land.

While we are considering the 'how' of research and extension, we must not forget the 'who', a factor which ultimately may be more important in the evolution of more sustainable farming systems. It is not in the nature of institutions to conceive radical alternatives to the status quo, but farmers are not bound by the same shackles which impede bureaucracies.

Landcare groups can speed up the recognition within rural communities of the need for change. After three years talking to some of the more far-sighted land users in Australia we are sure that many farmers are more willing to confront the challenge of developing original Australian farming systems than are many scientists, who are constrained by their peer group, their narrow disciplinary base, their recognition and reward system and the culture of the institutions within which they operate.

If lack of sustainable technologies is a constraint to landcare, then surely research is the answer! Without doubt, research has a critical role to play. A great deal more research, basic and applied, is required if Australian farming systems are to become more sustainable and more internationally competitive. The enforced cuts in research budgets and attrition in staff and resources make a mockery of the 'clever country' rhetoric. Barr and Cary describe many instances in Australian agricultural history where technical breakthroughs have improved the sustainability and profitability of farming practices with consequent impacts on the Australian economy and balance of payments. Such breakthroughs will be needed again and again as we chase the ever-shifting target of sustainable land use.

But dollars alone are not the answer. The type of research which
has traditionally occurred in Australia, and the relationship between research, extension and land users, is a key to current environmental problems. In terms of the effectiveness of Landcare groups, and of the goal of sustainability, the way in which research is carried out is as important as which issues are explored. There is a definite place for basic or pure research and for 'blue sky' research to extend the vision, in which scientists remain the primary actors. But for developing more sustainable farming systems it is clear that land users must become more involved, not as landlords for plots, but as legitimate players throughout the process of generating, transferring and applying knowledge.\textsuperscript{217}

The complexities inherent in sustainability and the primacy of farmers in making land management decisions, mean that a recipe approach to land management recommendations is unlikely to be effective. That is, research and extension should focus on improving farmers’ decision making (facilitating learning), rather than advising them what decisions to make—focus on tools instead of recipes, on the learning process as well as the technical content. This will require a new mode of thinking and acting for researchers.

Fortunately, the Landcare movement is already benefiting from an increasing number of examples of innovative projects in which the participation paradigm has infiltrated research practice.

Harm van Rees enjoys interaction with farmers, is quite comfortable saying 'I don’t know', and admits to learning more from farmers than they learn from him. He sees the legitimation of farmer involvement in all stages of research and development that is slowly occurring through Landcare as an essential direction that science must encourage if it is to be relevant to the solution of environmental problems. To illustrate what this means, Harm describes further aspects of MEYcheck, which now involves more than 800 farmers in north-central and north-west Victoria:

\begin{quote}
We use it as a training program for farmers so they get a better understanding of crop growing technologies. Farmers really have to think about their rotations, and about herbicides, about fertilisers, about spraying, about a whole range of things they never had to think about previously.

This whole training program is not me standing up in front talking to farmers about MEYcheck, it actually means them going out into the paddock collecting plants, analysing them for nitrate content with a field-based test them-
selves. Then we come back inside and go through fertiliser requirements and what fertiliser does to wheat. It helps them interpret their own results so it's not just me or someone else standing there lecturing to them, because that doesn't work.

Few farmers are trained university graduates. They are used to getting their hands dirty. The commonest response when they're asked why they like it [MEYcheck] is, 'Because it gets me into the paddock'. It gives them an understanding of what crop-growing really means so they understand how they should be controlling diseases, and how particular herbicides work so that they can start thinking about resistance. We can then nip resistance in the bud before it becomes a problem.

Fortunately, Harm is among a growing number of researchers with similar views about the changing relationship between farmers and researchers, in which an atmosphere of co-learning is becoming more prevalent. Phil Dyson, former director of the Centre for Land Protection Research at Bendigo, traces this shift in philosophy emerging through the participation paradigm:

*People here are looking at research in terms of the product that they are actually able to supply to their ultimate client—which is the community. Our feedback in terms of the research comes much more from those people [rural land users] than the traditional publish or perish mould.*

*In the early days of the Salinity Program the government actually took the salinity dollars off the departments and pooled them. We now put in submissions for research every year. Now that the management plans are either being developed or are about to be implemented, the community has been given responsibility for their plan. If I submit now for research funding on salinity that applies to a particular catchment, my submission goes to the community group and they decide whether they want to fund the research or not. Almost all research projects are done on farmers' land.*

*If anyone threatens the scientists, it's the academic bureaucracy, it is other scientists asking where the publications are or where are the replications. We just don't*
have time. Those papers that are produced tend to go to conferences. The replication and getting hung up on lots of little plots can detract from the big picture. If we’re looking to test the differences between species we might go to a plot type of research design but more often than not the plots tend to be put in the corner of a very large paddock ...

Basically what we are trying to do here is not research in its own right or extension in its own right but to achieve change.

Angus Howell, sheep farmer and coordinator of the Warrenbayne Boho Landcare Group, points out the mutual self-interest which is bringing scientists and Landcare groups closer together:

There is a lot of interaction between Landcare groups and the cutting edge of science. This is increasing with an increasing awareness among researchers that they need their research to be relevant and an increasing awareness among landholders that they not only have access to researchers, but they also now are starting to have some say as to where the research dollars go.

But attitudes to Landcare among scientific researchers are not all as positive as the above quotes suggest. Many scientists remain more comfortable in the laboratory or measuring many replications of small plots on the research station. Such people, and the institutions which employ them, still measure their effectiveness by the number of publications in refereed journals, which very few non-specialists read, or could understand. They respond to the opinions and judgments of their peers rather than the amount and type of contact they have with farmers or the wider community.

For these scientists, there are two principal aspects of Landcare which are potentially threatening. The first is simply the continual drift in the focus of the community, policy makers and funding agencies away from increasing production and towards the environment. The other aspect which causes some disquiet among scientists in both extension and research is the emphasis in government policies and documents (even if mostly rhetoric) on ‘empowerment’, on encouraging the community to assume responsibility for environmental problems, on encouraging community involvement in developing solutions to these problems, and giving community groups resources to do so—even to the extent of allowing
Landcare groups to commission and supervise their own research. 'Where does this leave the professional scientist?', they ponder, or, in the case of extension agents, 'If researchers are talking directly with farmers, and they've started to pay farmers as group coordinators, and to employ regional facilitators as specialists to work with groups—where do we fit in?'

Like extension staff, few researchers have had any training to help them interact effectively with community groups. The extent to which they do so at present is determined almost entirely by their personal characteristics and natural inclinations. Those who enjoy the involvement of non-scientists in their work generally work well with Landcare groups, and those who are uncomfortable with such involvement do not. For researchers, Landcare is a threat and/or an opportunity, depending on their perspective.

We have only glimpsed a few developments in extension, research and development, but hopefully the lessons are clear. Agricultural research and extension organisations, if they are to remain relevant in the sustainability era, must extend their ambit beyond the plot, the paddock, the farm and the farmer, to consider the community, the catchment and consumers. The participatory paradigm demands a change in focus: from transferring information to asking the right questions; from presenting to skilled listening and interpretation of feedback; and from starting with research outputs to building upon the diverse knowledge and inputs of many stakeholders. This breaks away from limiting notions such as 'top-down' and 'bottom-up'. Facilitating community synergy, assisting communities to work together to assume responsibilities for defining and tackling their own problems, can inform research and extension approaches at both the individual farm level and at the institutional level.

The changes happening in research and extension in Australia are profound. Furthermore, they are manifested in operational practice, not just in theory or rhetoric. We have some outstanding working examples of new models of research and extension, with exciting implications for the way in which society learns about and refines its relationship with the land.

**OTHER PLAYERS**

So far we have focused on people involved in extension, research and facilitation roles with Landcare groups. But they are not the only players in the unfolding theatre of Landcare. Other groups have played key roles in the initiation and shaping of Landcare, and will continue to have an important influence as Landcare evolves.
Conservationists

The conservation movement, in particular Phillip Toyne, Director of the Australian Conservation Foundation from 1987 to 1992, played a key role in securing the large increase in funding which accelerated the development of Landcare from 1989. There is little doubt that, without the support of the ACF and the political capital they represent, the increase in momentum and funding for Landcare would have been much more modest.

The main focus of the conservation movement in Australia has always been to preserve natural treasures such as tropical rainforests, the Great Barrier Reef, the South West Wilderness in Tasmania, and Shark Bay in Western Australia, from logging, hydroelectric dams and other forms of ‘development’. As Australia is one of the few countries in the world with large tracts of land which have not yet been significantly modified by modern man, this has been an understandable focus. Some major environmental battles have been fought and won by the conservation movement: including the cessation of sand mining on Fraser Island; the prevention of uranium mining in Kakadu; the fights against the construction of the Wesley Vale pulp mill and the Gordon below Franklin Dam in Tasmania; and World Heritage Listing for ecologically important areas. In these battles the conservation movement has made effective use of astute political campaigning and lobbying, sophisticated use of mass media, careful targeting of issues and strategic application of scarce resources to maximum political effect, particularly in marginal seats during election campaigns.

However, soil conservation has never caught the public imagination as have other more glamorous and easily depicted conservation issues. When Phillip Toyne encouraged the ACF council to support Landcare, in a sense he was acting without widespread public support from the grassroots of the conservation movement. The stereotypical images of farmers in the eyes of many conservationists were either of rural conservatives in tweed jackets whose children attend boarding school, or of sunburnt men in blue singlets and battered old utes, scratching a living from the dust and the flies of the outback. Both of these caricatures were perceived by conservationists to have been instrumental in the demise of many native species, the increasing use of synthetic fertilisers, pesticides and herbicides, and the dust storms blowing over capital cities in dry years. The high-profile partnership between the directors of the ACF and NFF over Landcare was not (and still is not) reflected in relations between the conservation movement and
farmer organisations at state and branch level. Many conservationists and many farmer leaders were nervous about their respective organisations getting into bed together.

Landcare raised the profile of rural land conservation issues among conservationists, who began to turn their gaze inland in the early 1990s. The environmental legacy of agricultural land use in Australia is lamentable. Issues such as species extinction, declining soil structure and fertility, rural tree dieback and water quality decline are extremely disturbing for those people aware of them. To date, the conservation movement has taken a restrained and pragmatic position on rural environmental issues. They recognise that many land degradation problems are historical, caused as much by government policies as by the need, greed and ignorance of farmers; and they are aware that they lack the resources to mount a large campaign on a complex issue away from their main support base, the cities. Furthermore, many individuals within the ACF and other conservation organisations have some form of contact with Landcare groups and have been impressed by the commitment of many of the farmers involved. So they support Landcare and funding for Landcare groups.

Kate Walsh highlights the essential common interest between farmers and conservationists and the value of building upon this: ‘“Farmers” and “greenies” can seem poles apart. But actually they’ve got more in common than they think. At least the farmers and greenies have both got an emotional commitment to the land. Start on that basis and find common ground and work from there.’

For the significant number of conservationists who live in rural areas, Landcare groups provide a forum and an opportunity for positive interaction with farmers. Conservationists often have valuable skills to offer a Landcare group. Where conservationists do become active in Landcare groups, it is usually a revelation for farmers to realise that their stereotypical images of ‘greenies’ are somewhat astray, that their opinions are often thoughtful and their inputs constructive. Conservationists, on the other hand, usually get a better appreciation of the realities of the farmers’ life worlds; they become more aware of why some land is managed in the manner it is, and realise that very few farmers have anything but deep respect for their land.

Many members of the conservation movement have played important roles on the various committees and planning groups established across the states and at the national level since the late 1980s. These groups include State Assessment Panels which recommend projects for funding, Decade of Landcare planning com-
Landcare committees, Total Catchment Management Committees and several others. Usually conservationists are in a minority (often of one) on such committees. However, their broader view of the whole question of land management, usually promoted in an articulate and passionate manner, and their political skills, have given them influence beyond their numbers. Landcare is stronger and broader-based as a result. Individuals such as Jane Elix and Jill Reading, representing the ACF on the National Soil Conservation Advisory Committee (SCAC), ensured that debate and deliberations (and consequently Landcare project guidelines and assessment procedures) reflected a more holistic view of sustainability and of the role and potential of community participation than would have been the case if the committee had been entirely composed of farmers and government officials. Such involvement is not attention-grabbing for the ACF, but it does give the conservation movement a voice within the system. Just as important, it ensures that conservationists have a better appreciation of how and why some decisions are made, and that they have a much better insight into both farmer and government perspectives on issues close to their heart.

So far the conservation movement has played a catalytic and constructive role, providing strong political support for Landcare. But this may not necessarily always be the case, particularly if farmers are not perceived to be genuine in their quest for sustainability and willing to confront some of the unpalatable changes in land use and management (eg in the rangelands, irrigation districts and marginal cropping lands) that any 'fair dinkum' assessment of sustainability implies. In comparison with the money spent on subsidising industrial agriculture under the Common Agricultural Policy of the European Community (approximately sixty billion ECUs, or 3400 times the amount spent on the entire National Landcare Program for roughly the same geographical area), or the United States Farm Bill, Landcare funding in Australia is minuscule. And, crucially, it is not linked with agricultural production. Nevertheless it does offer a point of entry for the conservation movement to influence agricultural policy.

Farmer leaders

The latter point has not been lost on several leaders of state farmer organisations, who have used clichés like 'the thin end of the wedge' and 'a foot in the door' when referring to the involvement of conservation groups in rural land use issues. While they can see
the importance of winning the hearts and minds of urban Australians to preserve the lobbying power of agriculture, state farmer leaders are often coy about the fact that it was only with the support of the ACF that Landcare funding was increased so substantially from 1989. There are certainly members of Landcare groups who are frustrated with the farmer organisations for not providing more progressive leadership on environmental issues, but there are probably other farmers who would see the role of the farmer organisations more in terms of fighting the conservation movement and any hint of further land management regulation, such as clearing bans. There is a tension here between the representative role and the leadership role of farmer organisations.

Agripoliticians are aware of which way the environmental wind is blowing, so they are publicly enthusiastic about Landcare and keen to be associated with successful Landcare groups. The Victorian Farmers Federation have been co-sponsors of Landcare with the Victorian government since 1986, with three staff in a Landcare Liaison group. Their counterparts in Tasmania and South Australia have appointed staff specifically to liaise with Landcare groups and to improve farmer organisation inputs into Landcare. In most states there are farmer representatives and professional staff with a genuine commitment to Landcare who have been prepared to stick their necks out and show real leadership in getting their organisations more involved, challenging the perceptions of some of their more reactionary members.

As mentioned earlier, the joint National Farmers Federation and Australian Conservation Foundation proposal for a National Land Management Program was influenced by a 1988 paper written by Jock Douglas, a grazier from the Mt Abundance district in southwest Queensland, who at the time was President of the Queensland Cattlemen's Union. This paper advocated support for community groups and property planning, the cornerstones of the ACF/NFF proposal. Jock has continued to make an important contribution to Landcare, through his role as Chair of the Queensland Landcare Council and as a member of the National Landcare Advisory Committee, which replaced SCAC in 1992. The Queensland Landcare Council has seventeen members, of whom ten are land users, and its role is to oversee Landcare in Queensland, determining funding priorities, assessing Queensland Landcare projects submitted for funding under the National Landcare Program and providing advice on land conservation to the Queensland Minister for Primary Industries. There are similar councils with similar roles in each state, although the Queensland Landcare Council differs from
most in that some of its members are elected directly by Landcare
groups at the annual Queensland Landcare Conference.

The following extracts from an after dinner address by Jock
Douglas to the Eastern Zone conference of the Queensland
GRAINGROWERS ASSOCIATION AT JIMBOUR IN FEBRUARY 1993; ILLUSTRATE
THE LEADERSHIP ROLE BEING PLAYED BY JOCK AND PEOPLE LIKE HIM IN
OTHER STATES, AND THEY PROVIDE A USEFUL ILLUSTRATION OF A MORE
PROGRESSIVE, POLITICALLY AWARE FARMER PERSPECTIVE ON LANDCARE:

... You may have heard about the grain farmer who won a
million dollars in Tattslotto. He was asked what he would do
with the money and said, 'Just keep farming until it is all
gone' ... There is a lot resting on us as farmers. There is a lot
of pressure and a lot of risk for us. And then there is our
base—the land. It can be under pressure also. The economic
and climatic conditions can be tough, they can be devastating,
but we cannot allow our base, the land, to decline or deterio-
rate. If we do, the other pressures simply increase.

Which leads me to Landcare ... The burning question is,
can we move to a sustainable use of our natural resources?
Agriculture has an unwritten contract with society. All
around the world these contracts are being renegotiated,
each country in its own unique way. There is a collective
responsibility to renegotiate agriculture's social contract.
We in agriculture must be in a strong position to negotiate
that contract. Political priority comes from public priority!
We must be able to show that we are capable caretakers of
the Australian community's most vital resource asset—its
land. Then we become part of public priority. In Australia
the move to sustainable land use—both doing it and
showing that we are doing it—is exemplified by Landcare.

... Let's get back to where it all happens—on our farms,
in our paddocks. The condition of land is something which
shouldn't be generalised—the variations are too great. The
focus has to be on locality, right down to within our
paddocks and what is happening within each of them. That
is the first part of the brilliance of the Landcare concept.
The second part is that the leadership for having land in
good condition—having sustainable production from it—
comes from the landholders and the community. Govern-
ments support with project funding and incentives. They
facilitate, research and extend technology. But the leader-
ship and the application is in our hands.
Locally, Landcare groups determine the local priorities of best farming practices. Landcare groups create information exchange. They bring about a powerful blend of the best local knowledge and most suitable technology to focus on land management. They encompass the whole family farming unit in the process. Groups also undertake federally-funded projects to demonstrate solutions. Here in the heart of the grain belt, departmental and Landcare groups' projects are focusing on flood plain management, conservation tillage, fertility trials, viable farming systems, salinity control, woody weed control, gully stabilisation and reducing watertable height by pumping.

... I know the frustrations of seasons and markets. But we can't neglect or let deteriorate our land resource. Through Landcare we can not only move to sustainable land use but bring our families, our local communities closer together. The pioneering days of individualism are changing to stewardship, group information and action. Landcare is about us, acting together now, to make the future better.

When pointing out the contributions of individuals there is a great risk of omitting worthy people, but, like Jock Douglas, Heather Mitchell and Bob Carrail in Victoria, Alex Campbell in Western Australia, George Rance in Tasmania, Neil Smith in South Australia and Rick Farley at the national level, have all invested personal credibility and time into Landcare, well in excess of official requirements.

In addition to these better known individuals, there are scores of other farmers whose leadership stems from their contribution to Landcare per se, rather than through formal involvement in agripolitics. In each state, such people sit on State Assessment Panels to scrutinise projects for funding, they put many hours into the various planning processes, they travel thousands of kilometres to attend meetings in cities with policy makers and representatives from other sectors of the community, and they are often invited to talk to Landcare group meetings about the 'bigger picture' and to demystify some of the paperwork associated with Landcare. They perform a critical function from a government and a community point of view. They are able to lead the process of thinking about and changing towards more sustainable systems of land use and management. They are accessible to people at a Landcare group level. They are not bureaucrats but can speak the language and
know all the acronyms. And at the end of the day, these people sit around the table with policy and decision makers to ensure that there is at least one voice coming from a community level.

This is not a glamorous or high-profile contribution, and it is certainly not well rewarded. Quite the reverse in most cases, as the cost of travel, of compensating for the labour no longer available back home on the farm, and the extra stresses of time away from the farm and family are rarely matched by the government mileage allowance, if there is one. Furthermore, there is a constant danger of becoming bureaucratised, of becoming absorbed by the formal system to the point of no longer effectively representing, or being seen to represent, the interests of Landcare groups. This danger would be magnified if government paid voluntary members of the various higher level panels and committees a fee commensurate with the time, expense and opportunity costs of their contribution. Thus there is a constant tension between running a system of community representation on a shoestring, relying to a large degree on altruistic voluntary effort, risking burnout of key individuals, and making Landcare more professional and structured with adequate financial reward for individual contribution to the larger effort, risking the alienation of those receiving some financial support from those at a group level battling away entirely under their own steam.

**Politicians**

We have noted John Bradsen’s observation that parliamentary records at both state and federal level over the past hundred years reveal a litany of speeches about the severity and extent of land degradation in Australia and eloquent calls for something to be done. However, as mentioned earlier, soil conservation has never been seen as a vote-winner, so politicians’ concerns were largely rhetorical until John Kerin, as Minister for Primary Industries in the incoming Labor government of 1983, initiated the National Soil Conservation Program and increased its budget each year until the intervention of the joint ACF/NFF proposal in 1988, which set the scene for a dramatic increase in budget allocations.

Several other politicians played pivotal roles in this process. Joan Kirner, as Minister for Conservation, Forests and Lands in the Victorian government, was certainly not a ‘hands-off’ Minister in the Jim Hacker mould. Her hand in the early development of Landcare was unmistakable, and her background in community development was a key factor in the parameters she established for the embryonic Victorian LandCare program in 1986. As well as naming the
Supporting Landcare groups

program, she stipulated that it be community-based; that it should develop integrated approaches to the various problems of erosion, salinity, pests, weeds and tree decline, rather than tackling them in a piecemeal way; that community groups should develop ownership of the program by planning and implementing their own projects, not just participating in departmental initiatives; and further, that the department should respond to the needs and priorities of the community, rather than the other way round.

Heather Mitchell, in her role as President of the Victorian Farmers Federation, is an agripolitician who was also prepared to cross the political divide to deal constructively with a Labor Party Minister, a species traditionally regarded as hostile to farmers and farmer organisations. Heather Mitchell was prepared to invest her personal credibility in Landcare and to take the long view on what was in the best interests of her members and agriculture in general. The activity and enthusiasm of Victorian groups was an important influence on Rick Farley and Phillip Toyne, Senator Peter Cook and John Kerin.

It is unlikely that the ACF/NFF proposal would have been received so warmly by the Prime Minister had it not had the support (carefully secured by Toyne and Farley) of his then Minister for the Environment, Senator Graham Richardson, the man credited with the Labor Party's successful electoral strategy of wooing green votes. So the proposal presented to the Prime Minister was drafted by two powerful lobby groups from opposite ends of the political spectrum, with the endorsement of two of his most senior and respected Ministers. It was also publicly endorsed by the opposition Liberal and National parties, whose respective shadow ministers for Primary Industries and the Environment, Bruce Lloyd and Fred Chaney, were explicitly supportive in the development of Landcare as a national movement in the early 1990s.

This bi-partisan unity illustrates the political attraction and safety of Landcare, and the fact that politicians are prepared to put aside party differences to support programs they think are genuinely worthwhile. Individual politicians, both inside and outside parliaments, have played pivotal roles in the initiation and consolidation of Landcare. As a whole, however, the body politic has tended to treat land conservation as a low priority—probably reflecting its perception of public opinion.

**The state**

Landcare is an enigma for many senior administrators and drafters of departmental policies. It is essentially an environmental movement within a traditionally conservative sector of the community,
which has a considerable momentum independent of policy inputs and which is growing faster than policy has anticipated. A galling aspect of Landcare for some public policy makers (capitalised upon by others) was that the main policy inputs into Landcare initially were contributed by two lobby groups outside the formal process—the ACF and the NFF. In addition, the critical social aspects of Landcare represent unfamiliar territory for many policy makers in agricultural bureaucracies.

Nevertheless, policy makers have not been slow to see the potential of Landcare to be more effective than traditional approaches to soil conservation, particularly at the federal level which does not have constitutional responsibility for land conservation. Australia as a nation does not yet allocate sufficient resources to tackle land degradation and develop more sustainable systems of land use and management. Nevertheless, the contribution that the federal government has made to land conservation activity through the National Landcare Program (formerly the National Soil Conservation Program) since 1984 and particularly since 1988, has been extremely significant. The NSCP began funding land conservation groups in 1984–85 and deserves credit for recognising the potential of the community group-based approaches in the mid-1980s and for altering funding priorities accordingly.

That there are now almost 2000 rural community land conservation groups in Australia is a highly significant development. The funding provided through the National Landcare Program has been of fundamental importance in building the platform of community participation. Without this catalytic national funding, land conservation activity in Australia would be insipid. Commonwealth funding, particularly through the NLP, has established a platform from which new plateaus of activity can now be reached.

But the level of resourcing is only part of the picture; the other critical element is the process by which funds are allocated. Funding, whether too much too soon, too hard to access, or obviously spoken for by state agencies, has a profound impact on groups’ perceptions of Landcare. It can be a catalyst or a constraint to Landcare group effectiveness. Canberra policy makers, through the guidelines established for funding community groups, have forced some states to take more community-based approaches to land conservation, and have tried to use national funding as a lever to ensure a consistency between states on issues such as land resource assessment and drought management.

Policy makers at state and national level (especially the states) have also ensured that the budgetary interests of the Ministries in
which they serve have not been disadvantaged by a move to funding the community directly. The major recipients of increased national funding for land conservation have been state government departments.\textsuperscript{218} We should point out that the National Landcare Program was never intended to be a bank for community groups; and that, as the institutions with constitutional responsibility for land conservation, state agencies are deservedly key players in any national funding program. A significant amount of this funding is used to assist departments to better service Landcare groups, for example by employing facilitators and coordinators. However, there is no doubt that national funding has become an extremely important component of state land conservation budgets. This effectively ensures that government departments are competing with community groups for money from the same source, and that policy makers thus have a vested interest in drafting guidelines and project assessment procedures which ensure that the program does not become community-based at the expense of departmental budgets. In doing so they are illustrating the power of the politics of access, whereby administrative systems function to control who gets what and in what ways, through mechanisms such as eligibility procedures, labelling, and establishment of ‘gateways’ for access.\textsuperscript{219} These gateways can look very different, depending which side of the gate one is on.

The most important category of institutions in Landcare are undoubtedly the state government agencies responsible for land management and land conservation—the various departments of Agriculture, Primary Industries, Conservation and Land Management, Conservation and Natural Resources. These agencies are the primary source of technical advice for Landcare groups; they employ the facilitators; they spend the majority of National Landcare Program funds and they carry out most of the administration of funding to community groups, as well as being traditional providers of land management research and extension.

State land conservation ministries invariably consist of competent people with a genuine commitment to Landcare, albeit with differentiated perspectives on how best to foster sustainable land use and management. But often the actions of the institution as a whole, as reflected in encounters with various clients, intended beneficiaries and the general public, seem inimical to effective community participation, at odds with the espoused objectives of the Landcare program, and inconsistent with the personal opinions of most individuals within that institution. Institutional cultures, the intangible, unwritten emergent properties of bureaucracy, may
have far more influence on Landcare than institutional structures and formal policies.220

The Landcare movement is both a reflection of and a catalyst for changes in the way government agencies interact with community groups. The consolidation of the participation paradigm is changing the relationship between community groups and land conservation agencies. However, there remain some pervasive attitudes and institutional cultures which are a formidable constraint upon Landcare groups taking the step from raising awareness of problems to being key players in developing solutions. This is not a criticism of the individuals within state agencies—rather, it is directed at the organisations and cultures within which these people work.

Terms such as 'empowerment', 'community-based' and 'bottom-up' are becoming hackneyed in government landcare literature, which is seen by many farmers as propaganda. Yet the rhetoric is rarely followed through (or even acknowledged) by all layers and sections within government agencies. The trouble with empowerment is that, in the Landcare context, it is seen to mean:

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\text{transferring power for decision making and the allocation of financial resources from government bureaucracies to community groups and joint community/government decision making forums. Such a change can be threatening to existing institutions and power structures ... The risk is that those with the power and resources attempt to use community participation for their own ends and organisational goals (even if those ends may be directed towards their view of what is 'good' for a particular community) and hence are not genuine about empowerment.221}
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Here are a few samples of encounters illustrating government agency attitudes and cultures which militate against the effectiveness of Landcare groups:

- the expression 'my Landcare groups', often used in the context of, 'Anyone wanting to talk to my groups has to go through me', or 'Why wasn't I informed that you were talking to so and so?'
- empire building: the securing of extra resources for the department, the focus on means rather than ends: 'Never hand any money back, we must spend it or commit it before June 30 or we won't get it next year; it's better that we spend it than the other mob.'
- the expert syndrome: 'We'll do the inventory/monitoring/plan-
Kate Walsh in the Strzeleckis.

KATE WALSH

Members of the Waggamba Conservation Committee (Qld) at one of their demonstration sites.
Above all, Landcare is about people

ANDREW CAMPBELL (All photos this spread)
Learning to manage an agroforest on the property of Ian and Bev Lynch, Mt Barker.

Learning to foster group synergy in a Landcare group facilitation course—one of many practical and theoretical exercises in group process.
ning/set up the trial and we’ll let you know the results/provide you with a map or plan. We know what’s best!’
• paternalism: ‘We’ll look after the funds/employ the person/buy the vehicle for you—don’t you worry about that!’

To be fair, the latter two quotes could be a legitimate, negotiated outcome between a Landcare group and an agency in which there is an open consensus about who does what—but more often the group feels it has little say.

Changing institutional cultures and developing the ability of institutions to learn requires more than just training the individuals within the institution. Of course the structure of government agencies does have some influence. Hierarchical lines of command tend to preclude ‘bottom-up’ decision making within agencies, making it extremely difficult for agencies to act corporately in a way which gives meaning to ‘bottom-up’. But even within an hierarchical structure, institutional cultures are critical. An institutional culture which fosters constructive dialogue between senior and junior staff, which encourages initiative from below and which approves of genuine delegation, can do much to offset the effects of an organisational chart shaped like the Eiffel Tower. In reality, the two issues are intertwined, and it is unlikely that an institution with a participatory, bottom-up culture would tolerate for long a top-down structure.

Involving the community can be time-consuming and frustrating and it is scary for people who are not naturally disposed to dealing with people and/or have not had relevant training. Seen through the prism of technocratic institutional cultures, community participation is tedious, its outcomes are often intangible and its cost/benefits debatable. But the complexities of developing new ways of using the land which meet environmental, social and economic objectives mean that genuine community participation in generating, using and exchanging knowledge in decision making and in resource allocation simply cannot be side-stepped or fudged.

The basis of the Landcare movement is the recognition that land degradation is a community problem, not a farmers’ problem or a government problem, and that tackling land degradation is as much a social challenge as a technical challenge. Ensuring the development and adoption of profitable, non-degrading land management systems will require all available resources to be more effectively applied, complemented by changes in individual and social attitudes and priorities. It follows, then, that a much broader range of land users must be involved than just a small proportion
of farmers. This involvement cannot be merely passive reception of research findings, improved technology or government planning and regulatory documents. Involvement of land users in Landcare embraces defining problems, planning better land use and management, participating in relevant research and development, and becoming active agents in extension and community education. In other words, local groups of land users assuming responsibility for land degradation problems and for developing better systems of land management.